THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE AND DECORATIVE ARTS.

VOL. CV.—No. 3695 NOVEMBER 28, 1913.

THE RELATION OF SCULPTURE TO ARCHITECTURE.

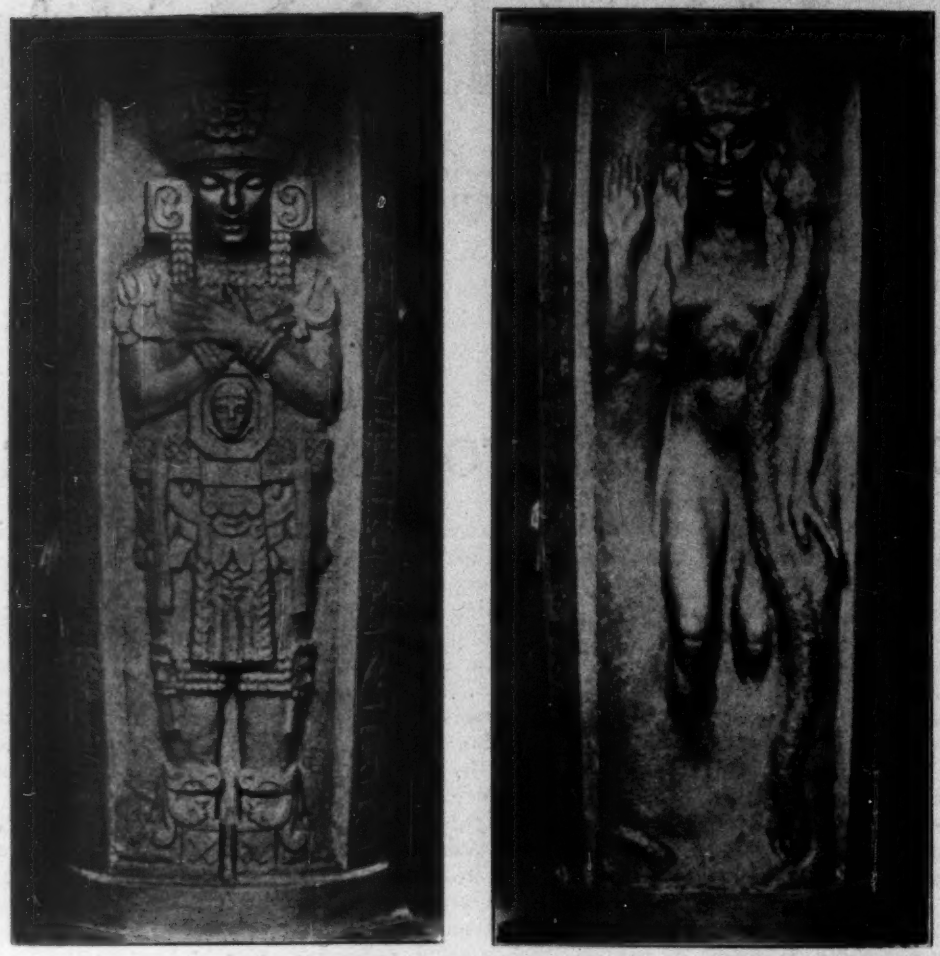
THE article by Mr. Selwyn Brinton, published in our issue of the 7th inst., draws attention once more to a subject in regard to which there are a good many conflicting ideas and some misconceptions. The idea which seems to receive much support at present—that the highest value of sculpture is only to be realised when it is used as a form of architectural decoration—is one which can hardly be accepted *sans phrase;* it needs certain modifications in the interests of both the arts concerned.

Sculpture seen in connection with architecture has to be considered from two points of view—that in which the architecture forms merely a background or surrounding to the sculpture, and that in which the sculpture forms an integral part of the decoration of the building. In the former case the sculptor has a free hand; his work can be seen all round and not merely from a front position, and has to be designed so that it will compose well and be expressive from every point of view—a condition which imposes additional difficulties on the sculptor, but which many of the most eminent sculptors have welcomed as affording the best opportunity for making the most of their art. One need only recall the well-known story of Thorwaldsen's protest against the placing of his series of statues of the Apostles in niches, and his astute trick, when he found his protest disregarded, of requesting the exact measurement of the niches and making the statues just too high to go into them. The importance of this all-round view of sculpture is often unintentionally illustrated by comparison of the works exhibited in the Octagon and in the Lecture-room at the Royal Academy exhibitions. In the Octagon nearly all the principal works are placed against the wall, where we get only their front view, while in the Lecture-room they stand free in the middle of the floor, and one is forcibly reminded sometimes that a work which may look very effective from the front view may appear very uninteresting from the back view. But most sculptors, we believe, will agree that the highest success of their art lies in the work that composes equally well from every point of view; speaking, of course, of work executed in the round and not of bas-relief, which is necessarily a part of the building.

Sculpture which thus takes its stand in front of a building which furnishes an architectural background or setting to it must, to justify its position, be of a large and monumental character, otherwise its relation to the architecture will hardly be evident nor worth considering. It must look sufficiently important to appear as if it had been worth while to consider the design of the building in relation to it. Figures well above life-size scale are almost demanded in such a case, unless the sculpture is to appear too insignificant for its position. There is no better example of this kind of relation of architecture and sculpture than is furnished by the Ruhmeshalle, near Munich, where the colossal statue of Bavaria, standing in front on the central axis of the whole composition, appears to be framed in by the low level building in the rear, the wings of which are emphasised so as to appear to flank and enclose the statue, while the middle portion of the architectural façade preserves a long horizontal line, contrasting with the vertical height of the statue. Had the architect of the new front of Buckingham Palace been designing a new building, he would probably have composed it on the same principle, with the wings emphasised so as to frame in between them the great sculptural memorial in front of the Palace and the centre kept horizontal so as to contrast with the sculptural memorial. As it is, we have two central objects one behind the other, which is always to be avoided if possible. In the case we mention the necessity of altering as little as possible the present arrangement of the building probably has led to this; but the placing of an architectural centre immediately behind and in line with a sculptural centre is always undesirable, as the two lessen each other's effect. Monumental equestrian statues on a large scale group admirably in front of a building, as we had occasion to see when Watts's group of "Physical Energy" was placed in the middle of the courtyard of Burlington House during one of the Royal Academy exhibitions.

Where sculpture is to form an actual part of the architectural decoration of a building it is necessary, in order to harmonisel with and appear to form part of the architecture, that the sculpture should give up some of its own individual life. Those who contend that sculpture is never so great as when it forms a part of architectural decoration seem rather to overlook the fact that sculpture is a great expressive art in itself, which has a right to its own separate existence, and is not to be considered solely as a decorative adjunct to architecture. The great collection of modern sculpture which is to be seen every year at the Paris Salon, though it always includes a good many works of architectural sculpture, also includes many works which may be called sculptural poems complete in themselves, and requiring no architectural setting. That is the point which seems to be overlooked by the advocates of sculpture as being specially a form of architectural decoration. Sculpture is a great and complete art in itself, and in its highest and most expressive productions has a right to its own independent life. Mercié's great group of the "Gloria Victis" no doubt looks very well in the small courtyard of the Paris Hôtel-de-Ville in which it is placed (where, unfortunately, few people ever seem to see it); but it does not depend on its architectural surroundings in the least—it is too intense and living a group for that; it would be equally effective in a square or a garden. It makes its own interest as a great sculptural poem independent of any aid from architecture. And if a work of this intense sculptural life is placed in a niche as part of the decoration of a building it has too much the air of being no part of the architecture, of being merely placed there for exhibition. Sculpture which is really to be regarded as part of the decoration of a building must be to a certain extent architecturalised into harmony with the architecture; it must lose some of its sculptural vitality and become more or less formal, so as to appear, as an eminent sculptor once put it, as only "a higher form of masonry." There could be no better example of this, taking sculpture from the mediæval point of view, than the sculptured front of Wells. The sculpture which fills the greater part of that rich façade is somewhat stiff and formal even for mediæval sculpture, but the result is that it impresses us as being part of the architecture; while the far more vivid and life-like sculpture of the Resurrection series, on a smaller scale, takes its most appropriate place at the top of the façade. Had that remarkable series of figures been of life size, and placed near the ground, it would have disturbed the building too much. Whether those who erected the façade reasoned in this way, or whether the disposition of the sculpture was only a happy accident or a half-unconscious instinct, we cannot tell; but the result, and the lesson from it, are the same.

In the case of relief sculpture there is no doubt that sculpture in high relief, and even with a certain amount of vigour and movement in the composition, can be dominated and kept in its place by the strong lines of cornice and pediment



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(From the *Architectural Record*, New York.)

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Bas-relief is the most essentially architectural of all forms of sculpture, since it is really and obviously part and parcel of the wall surface and worked out of it. And it is the form of sculpture which it is most easy to use as part of the architectural design of the building, to be introduced where it will add to and give relief to the general effect. This was obviously the principle on which the Parthenon frieze was placed where it was; the architect wanted a band of decoration there—that was the idea in the first instance. One is reminded, in this connection, of the acute remark made by the late Mr. Lewis Day in quoting the line descriptive of a silver vase decorated with repoussé subjects:

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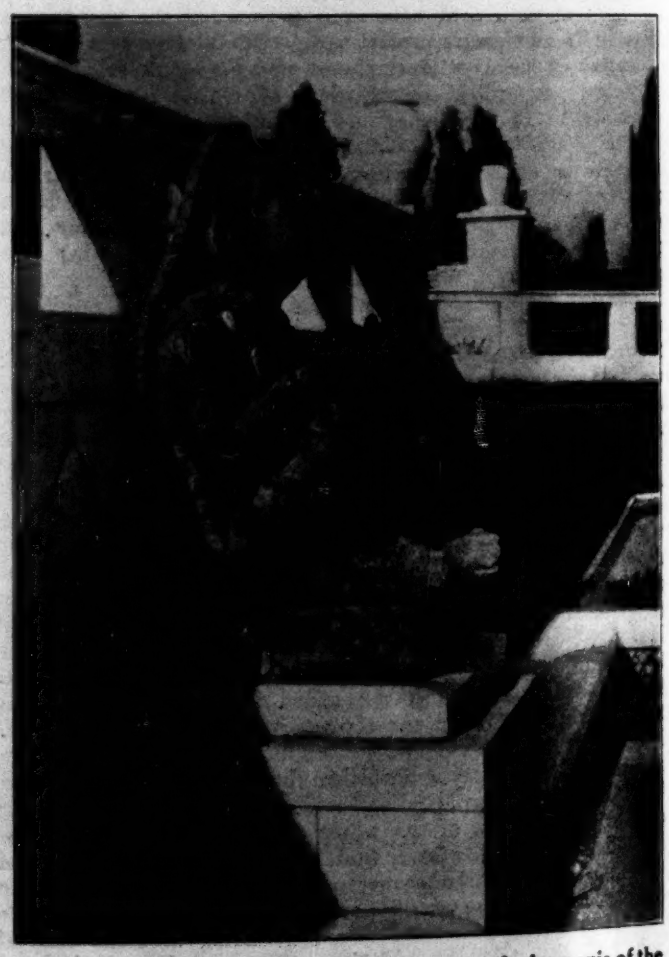
The "stories of the gods," he maintained, were a secondary consideration; the immediate object was that the surface should be "rich and rough." That represents something of the value which bas-relief sculpture has in architecture—a means of contributing richness and variety of surface in the general design, which is the first impression one gets; while it furnishes a story and an interest of its own when looked into in detail.

The suggestion that sculptors should study architecture more, in order to design better the pedestals and other surroundings to their figures, is perhaps open to question. Judging from some examples in recent exhibitions, some English sculptors do appear to be bestowing more attention on such details than formerly; but sculpture is a difficult and exacting enough art in itself, without requiring of sculptors that they should endeavour to perfect themselves also in another art of a very different type. In France, in the case of all public monuments, the question is now solved almost invariably by the appointment of an architect to collaborate with the sculptor and design all the architectural details; and this arrangement seems likely to give the best results.

The French, who are at present undoubtedly at the head of the world's sculpture, and who have in many cases used sculpture very finely as an adjunct to architecture, have not, however, always set the best example in regard to the important qualities of breadth and repose which should characterise sculpture when used as architectural decoration. They indulge too much in the habit, which seems to have had its rise since the days of the 1889 exhibition, of flinging sculptured figures on to cornices and *frontons*, with their legs flying out in the air, which is neither good in effect nor consistent with the dignity of architecture. Architectural sculpture should always partake of the character of dignity and repose which should distinguish architecture itself. Only let it not be forgotten that sculpture, in its highest achievements, has its own great field of artistic and poetic expression, and, however it may add to the beauty and interest of architecture, to regard it as only valuable in connection with architecture is to do a good deal less than justice to what is perhaps the most intellectually interesting of all the arts.



Detail of the South American Indian Figure on the long axis of the Pool in "the Blue Aztec Garden," the Pan-American Building, Washington, D.C.

Messrs. Albert Kelsey & Paul P. Cret, Associate Architects

(From the *Architectural Record*, New York.)

NOTES.

A Ministry of Fine Arts.

SEVERAL meetings of the Provisional Committee which was formed to consider the question of the advisability of creating a Ministry of the Fine Arts in this country, and the best way in which the scheme could be furthered, were held at these offices, and finally it was decided to invite the Academy, the Royal Institute of British Architects, the Imperial Arts League, and the London Society to nominate representatives to attend a meeting which was held at No. 9, Conduit-street, last Monday. The meeting was attended by the following:—Dr. David Murray, R.A., LL.D., Sir George Frampton, R.A., Mr. W. Reynolds Stephens, Mr. Edwin Bale, Mr. A. R. Colton, R.A., Sir Frank Short, R.A., Mr. Alfred Hacker, R.A., Mr. Henry T. Hare, F.R.I.B.A., Mr. E. Guy Dawber, F.R.I.B.A., Professor Lanteri, Mr. Solomon J. Solomon, R.A., Mr. H. V. Lanchester, F.R.I.B.A., Mr. C. Stanley Peach, F.R.I.B.A., Mr. Wynford Dewhurst, and Mr. H. W. Wills, F.R.I.B.A. Mr. David Murray took the chair. After considerable discussion the following resolution was passed, when the meeting had been resolved into a committee:—"That this committee resolve to consider the possible lines on which a Ministry of the Fine Arts might be advantageously formed, and if a satisfactory scheme can be evolved pledges itself to do the best to bring such a scheme into operation." An executive committee of seven members was also elected before the termination of the meeting. The object with which the *Builder* took up this question was to focus attention on the necessity for organised movement and to elicit authoritative opinion on the subject, and with the formation of this committee that object is now accomplished, and the movement, which we hope will be a successful one, will from this time be under the direction of an independent committee representing different sections of artistic thought. We shall hope, in common with other journals, to be able to give the movement all the aid which publicity can effect, as we believe the formation of such a Ministry will not only aid art, but be of service and value to the nation.

Monuments in St. Paul's.

THE Dean and Chapter of St. Paul's have intimated that in future they will not accept any monuments for the main interior of the fabric, on the ground that it is already full. Other arguments in favour of this decision are based on the ground that additional danger is caused by the weight of the monuments and their interference with floor space. Of the seventy-eight monuments in the cathedral, forty-one rest on the floor, thirty-seven are fixed to walls or are in the form of windows. Architecturally the forty-one monuments in the first class separate themselves into groups and do not give the appearance of crowding, and in the enormous space between the two western chapels there are no monuments at all. There are no monuments under the main arches with the exception of that of the Duke of Wellington; the spaces are either suitable for recumbent effigies or statues against the piers. There are also spaces where new monuments almost seem to be needed to balance those already existing. The trouble which has already occurred is largely local, and concerned with the tremendous weight of the dome and the resultant strain on its supports. A modern addition of eight marble statues on the interior surface of the dome weighing 88 tons in all seems to be the only monuments whose weight can be of any real detriment to the security of the fabric, if any exists from a point of view of monuments. We agree with the writer of a letter to the *Times* that it would be a pity if the Dean and Chapter put an absolute veto on the further monuments in St. Paul's. It is true that the design of the ordinary monument cannot be considered as certain to be what is æsthetically satisfactory, but it is equally certain that in the case of a building so intimately connected with the history of the country as is St. Paul's a continuous series of monuments is a great factor in giving it historic interest and value.

Arterial Road Conference.

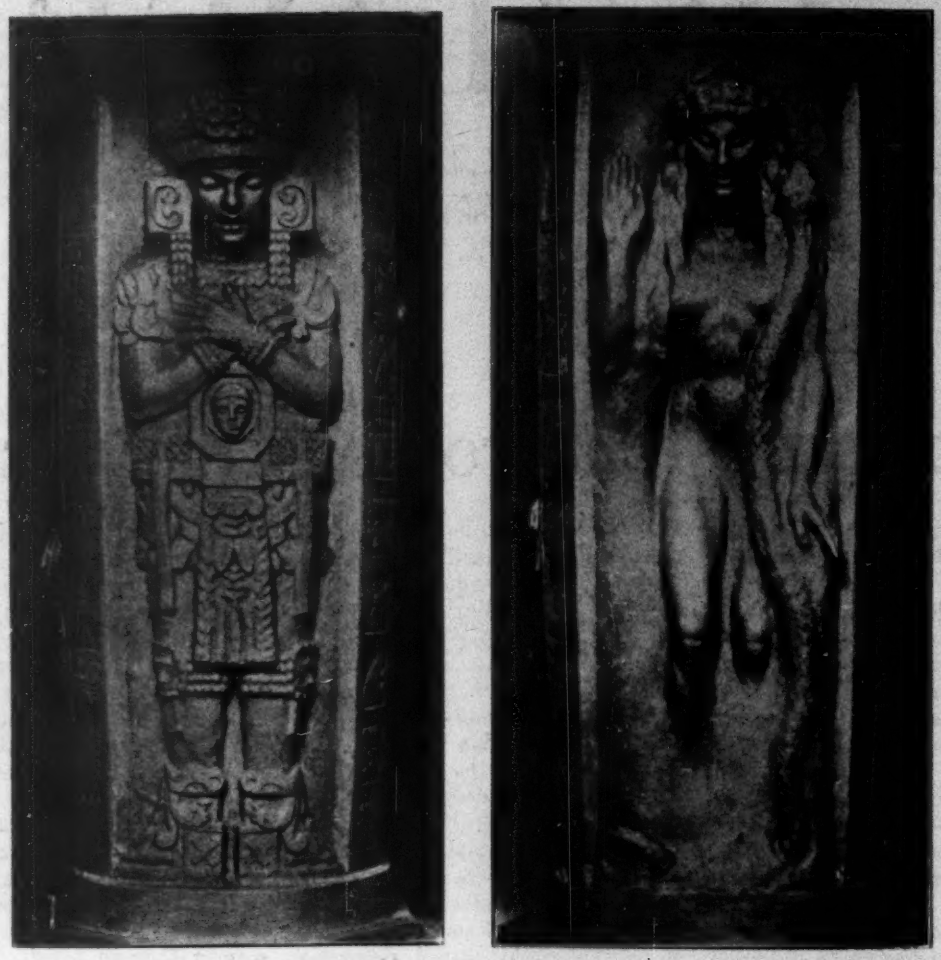
Now that the Conference of local authorities and others interested in arterial roads for London has got to work, we may hope that this very pressing question will at last receive the attention it demands. Mr. John Burns, in the Presidential Address with which he opened the proceedings, referred to the lack of unity in the past and the need for it in the future. We are aware of the danger to which he points—that unity may degenerate into monotony, but, considering the strong individualism of our national character and the independent attitude of our local authorities, variety may be taken for granted. The difficulty, we imagine, will be to attain to any degree of unity of conception. The accent, therefore, might well be placed on "unity" rather than on "variety," and we are glad to note that Mr. Burns considers that "unity in a general way ought to prevail." We hope that the influence of the Government will be exerted to make sure that it does prevail. But we must confess that we do not quite see how such desirable unity is to be obtained unless the whole question can be considered as a unit by some central body competent to take a comprehensive view of the whole question and to harmonise the conflicting opinions and interests of the local authorities concerned. We entirely agree with Mr. Burns that there should be no more road authorities and that there are too many already; but it should be quite possible to weld them all into one central authority with power to act. This question of arterial roads reminds us once more that a town plan is the inevitable expression of the civic organisation of the town, and that to obtain spontaneously and naturally a comprehensive scheme of main roads, to arrive at that unity of conception so essential to success, we must first arrive at unity of conception in our civic administration.

A City Fire.

ANOTHER City fire, at No. 35, Aldermanbury, has occurred, of a kind that should not be silently passed over, although fortunately it did not cause loss of life. The coroner's jury found that the fire was caused through the *inadvertent* (the italics are ours) placing, by some person or persons unknown, of smouldering matter, probably hot cinders, in a wooden refuse-box in the cupboard under the stairs on the ground floor, and they expressed an opinion that a serious disaster, involving loss of life and great destruction of property was narrowly averted by the action of an automatic fire alarm and the promptness of the police and fire brigade. The police and the fire brigade, we know, may be relied upon to do their best every time opportunity arises, and the value of automatic alarms is now well known. Nevertheless, we would prefer prevention to cure in this as in other troubles, and it is not always quite satisfying to be reminded of the difficulty of making things "fool-proof," although if foolishness were an excuse it seems to have been present in bulk on this occasion. In fact, we fear that the carelessness shown was, like that of the smoker who lights his cigarette, waves his nose and match in the air, and drops the match regardless of petticoats or other inflammables near, serious enough to be culpable. The owner who provides a wooden receptacle for ashes and the person who puts hot ashes therein should both be made punishable by law. In some cases it is no good asking for a reasonable brain, but there are few so foolish as not to realise that attendance at a police-court and the payment of fines are undesirable experiences.

The Architectural Association Conversazione.

THE Architectural Association held its annual Conversazione at No. 18, Tufton-street, Westminster, S.W., on Thursday, November 20, and it was, as usual, very largely attended. The guests were received by the President, Mr. W. Curtis Green, F.R.I.B.A., and Mrs. Curtis Green. The Museum and Galleries were transformed from their everyday sombre appearance by floral and other decorations. Amongst those present were Sir Ernest George, Messrs. Leonard Stokes, G. H. Fellowes Prynne, Frank L. Emanuel, Maurice E. Webb, H. Austen Hall, G. Leonard Elkington, Lawrence Weaver, F. Dare Clapham, Robert Atkinson, Geoffry Lucas, F. C. Eden, A. G. R. Mackenzie, and A. Gilbert Scott. The programme cover, which is quite a feature upon these occasions, showed this year on the front a figure worshipping a Greek temple, and on the back a student with drawing-board and tee-square off to Athens, indicative of the present-day fashion to turn to Greece for inspiration. A very notable exhibition of old pewter had been arranged in the long gallery, of examples lent from the collections of Messrs. R. Stephen Ayling, A. F. de Navarro, and A. B. Yeates. There was also a very highly-decorated dressing-table and bedstead, designed and executed by Miss Jessie Bayes, which had been lent by Messrs. Aumonier. Other examples of decorated work were by Messrs. McDonald Gill and Allan F. Vigers, also some pottery painted by Mr. Alfred H. Powell. The chief feature of the exhibition, however, was the fine array of architects' holiday sketches which covered the walls. The term "holiday sketches" covered a wide ground, as the collection consisted of oil paintings, water-colours, pen-and-ink drawings, pencil, and etchings. It would be invidious to mention the sketches in detail, but they made a very excellent collection. The water-colours by Mr. Arthur Harrison would have made an interesting show by themselves. There were also exhibits by Sir Ernest George, Messrs. Brake Baldwin, Reginald Blomfield, Cecil C. Brewer, F. Dare Clapham, E. Guy Dawber, Frank L. Emanuel, A. B. Knapp-Fisher, H. M. Fletcher, Edwin T. Gunn, McDonald Gill, W. Curtis Green, A. T. Griffith, Edwin T. Hall, Alick G. Horsnell, Gerald C. Horsley, Stanley Hamp, W. J. Palmer-Jones, P. Cart de Lafontaine, G. M. Mackenzie, G. H. Fellowes Prynne, C. Wontner Smith, C. M. Shiner, G. Vey, P. J. Westwood, L. Sutton Wood, Maurice E. Webb, and H. F. Waring (who, by the way, has a very interesting collection of drawings on exhibition at Messrs. Graves' Galleries at the present time). The Camera, Sketch, and Debate Club did not make such a brave show as usual, although the quality of the exhibits was quite up to the standard which we have been accustomed to expect from this section of the Association. Included in the Club's exhibits we found, as in the principal exhibition, evidences of a growing tendency amongst architects to take up etching as a medium. Messrs. Alick Horsnell, W. J. Palmer-Jones, P. J. Westwood, and G. Vey exhibited delightful etchings of very considerable merit. The School of Architecture was well represented by a display of drawings on the top gallery, some of which we have already published in our pages.



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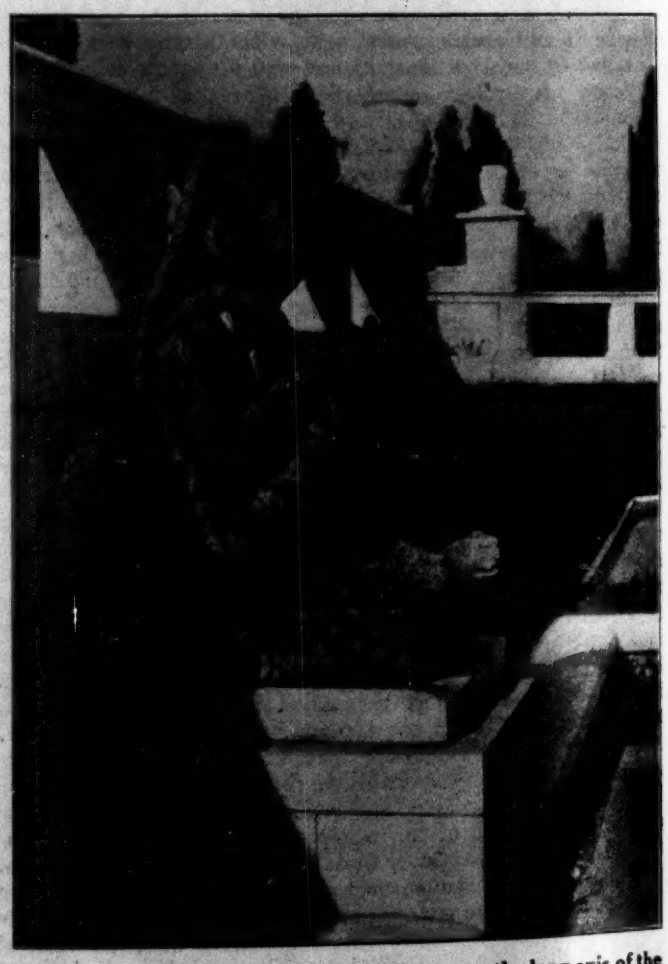

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ANOTHER City fire, at No. 35, Aldermanbury, has occurred, of a kind that should not be silently passed over, although fortunately it did not cause loss of life. The coroner's jury found that the fire was caused through the *inadvertent* (the italics are ours) placing, by some person or persons unknown, of smouldering matter, probably hot cinders, in a wooden refuse-box in the cupboard under the stairs on the ground floor, and they expressed an opinion that a serious disaster, involving loss of life and great destruction of property was narrowly averted by the action of an automatic fire alarm and the promptness of the police and fire brigade. The police and the fire brigade, we know, may be relied upon to do their best every time opportunity arises, and the value of automatic alarms is now well known. Nevertheless, we would prefer prevention to cure in this as in other troubles, and it is not always quite satisfying to be reminded of the difficulty of making things "fool-proof," although if foolishness were an excuse it seems to have been present in bulk on this occasion. In fact, we fear that the carelessness shown was, like that of the smoker who lights his cigarette, waves his nose and match in the air, and drops the match regardless of petticoats or other inflammables near, serious enough to be culpable. The owner who provides a wooden receptacle for ashes and the person who puts hot ashes therein should both be made punishable by law. In some cases it is no good asking for a reasonable brain, but there are few so foolish as not to realise that attendance at a police-court and the payment of fines are undesirable experiences.

The Architectural Association Conversazione.

THE Architectural Association held its annual Conversazione at No. 18, Tufton-street, Westminster, S.W., on Thursday, November 20, and it was, as usual, very largely attended. The guests were received by the President, Mr. W. Curtis Green, F.R.I.B.A., and Mrs. Curtis Green. The Museum and Galleries were transformed from their everyday sombre appearance by floral and other decorations. Amongst those present were Sir Ernest George, Messrs. Leonard Stokes, G. H. Fellowes Prynne, Frank L. Emanuel, Maurice E. Webb, H. Austen Hall, G. Leonard Elkington, Lawrence Weaver, F. Dare Clapham, Robert Atkinson, Geoffry Lucas, F. C. Eden, A. G. R. Mackenzie, and A. Gilbert Scott. The programme cover, which is quite a feature upon these occasions, showed this year on the front a figure worshipping a Greek temple, and on the back a student with drawing-board and tee-square off to Athens, indicative of the present-day fashion to turn to Greece for inspiration. A very notable exhibition of old pewter had been arranged in the long gallery, of examples lent from the collections of Messrs. R. Stephen Ayling, A. F. de Navarro, and A. B. Yeates. There was also a very highly-decorated dressing-table and bedstead, designed and executed by Miss Jessie Bayes, which had been lent by Messrs. Aumonier. Other examples of decorated work were by Messrs. McDonald Gill and Allan F. Vigers, also some pottery painted by Mr. Alfred H. Powell. The chief feature of the exhibition, however, was the fine array of architects' holiday sketches which covered the walls. The term "holiday sketches" covered a wide ground, as the collection consisted of oil paintings, water-colours, pen-and-ink drawings, pencil, and etchings. It would be invidious to mention the sketches in detail, but they made a very excellent collection. The water-colours by Mr. Arthur Harrison would have made an interesting show by themselves. There were also exhibits by Sir Ernest George, Messrs. Brake Baldwin, Reginald Blomfield, Cecil C. Brewer, F. Dare Clapham, E. Guy Dawber, Frank L. Emanuel, A. B. Knapp-Fisher, H. M. Fletcher, Edwin T. Gunn, McDonald Gill, W. Curtis Green, A. T. Griffith, Edwin T. Hall, Alick G. Horsnell, Gerald C. Horsley, Stanley Hamp, W. J. Palmer-Jones, P. Cart de Lafontaine, G. M. Mackenzie, G. H. Fellowes Prynne, C. Wontner Smith, C. M. Shiner, G. Vey, P. J. Westwood, L. Sutton Wood, Maurice E. Webb, and H. F. Waring (who, by the way, has a very interesting collection of drawings on exhibition at Messrs. Graves' Galleries at the present time). The Camera, Sketch, and Debate Club did not make such a brave show as usual, although the quality of the exhibits was quite up to the standard which we have been accustomed to expect from this section of the Association. Included in the Club's exhibits we found, as in the principal exhibition, evidences of a growing tendency amongst architects to take up etching as a medium. Messrs. Alick Horsnell, W. J. Palmer-Jones, P. J. Westwood, and G. Vey exhibited delightful etchings of very considerable merit. The School of Architecture was well represented by a display of drawings on the top gallery, some of which we have already published in our pages.

THE HÔTEL BOURGTHÉROULDE AND ITS RELIEFS.

ONE of the most interesting houses left in France, and, since the destruction, in 1820, of the Grand' Maison de Grand' Andelys, unique in Normandy, the Hôtel Bourgthéroulde stands on the west side of the Place de la Pucelle, Rouen. In the opinion of Pugin it is one of the most curious specimens of domestic architecture in Normandy.

Commenced in 1486 and completed about twenty-five years later, the hotel covers a period during which a great change came over the architecture of France—a change which had been foreshadowed for some time, and which came to pass during the period of construction of this building. The glorious Gothic architecture had spent its force and lost its vitality and the underlying principles, and the needs to which they gave expression had passed away. New ideas in art and literature and new ways of living had been making headway, and in due course these had their effect on architecture. Religion was no longer the motive, and the Renaissance of literature and the Italian Humanist writers had supplied new standards of life, not always better than the old, it is true, but the result was confusion for a short time, till the new tendencies were steadied down into the forward movement of the Renaissance.

The word "Renaissance," be it noted, is here used as the French architectural writers prefer it, meaning rather the experimental styles of Francis I. to the end of the sixteenth century, for they call the fully-developed seventeenth and eighteenth centuries the "French style."

During this period, then, the Hôtel Bourgthéroulde was constructed, in two portions, the earlier during the closing years of the fifteenth century and the later in the opening years of the sixteenth.

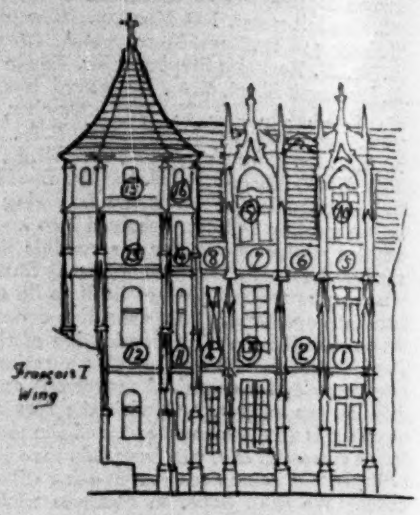
The first builder was Guillaume le Roux, Lord of Bourgthéroulde, who was evidently a man of importance in the time of Louis XII., and was one of the fifteen lay Councillors of the Perpetual Exchequer of the King. In 1486, the year of the commencement of the building, he married Jeanne Jubert de Vely, and their son, Guillaume, completed the buildings. This son, who became the Abbot of Aumale and Van Richter, was one of those clerical statesmen who were so much in evidence in the Middle Ages.

He was in the employment of Francis I., and carried through the negotiations with Pope Leo X., which resulted in the Concordat of 1517. He was present also at the Field of the Cloth of Gold, which event, as we shall see, he or his architect used as the basis of the lower series of bas-reliefs on the later work.

The building has suffered much with the passage of time. It has been, amongst other things, a boarding-school for young ladies, and is now an office of Comptoir d'Escompte de Rouen. It has attracted a good deal of attention from travellers and artists, mainly, it must be confessed, owing to the tradition that the Maid of Orleans was burned in the courtyard, a tradition which seems to be without foundation, the position of the stake having been located elsewhere. There is a plan of Rouen engraved by Lelieur in 1525, which shows the building in its completed state, and a drawing is given in Cotman's "Architectural Antiquities of Normandy," and one of the reliefs of the Field of the Cloth of Gold is illustrated in Dibdin's "Biographical, Antiquarian, etc., Tour," and some drawings are given in Pugin's "Architecture of Normandy." These authors seem to have been fortunate in seeing the hotel in a fairly complete state, but at the present day the façade is disfigured by the somewhat wanton removal of the old mullions and transoms in several windows and the insertion of modern glazing in the approved "French style."

The exterior to the Place de la Pucelle has been much mutilated, as may be seen if a comparison be made with the drawing by Lelieur referred to above; it will be noted that the façade was very elaborate in design and quite equal to the work in the Court. A magnificent corner turret fell down about fifty years ago, and the doorway has been restored. Tradition states that some of the material of which the later work is constructed came from the pavilion of Henry VIII., at the Field of the Cloth of Gold, and was incorporated with the work by the Abbé Le Roux. Entering the archway, we come into a courtyard, and facing the entrance is a magnificent late Gothic building, the oldest part of the hotel. For convenience in describing the reliefs the key elevation is given, and the compartments will be referred to by their numbers.

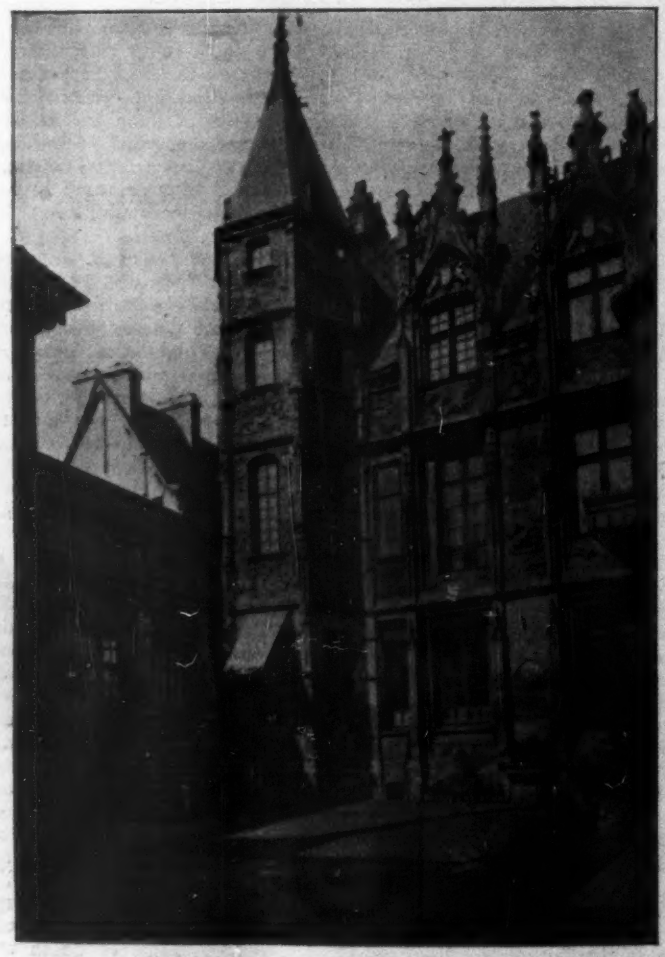
This portion is purely Gothic in conception, but in its proportions and details displays the falling off in vigour and the growing insistence on horizontal division which were usual about this period. The elevation consists of a façade with two tiers of windows and a hexagonal turret. The ground story is free from carvings, depending for its effect on mouldings, and the divisions are marked by buttresses which run the whole height of the façade, terminating above the dormers in crocketed pinnacles. The right-hand window is the only one which has escaped mutilation. On the first floor in the window breast is the Phœnix of Eleanor of Austria, widow of the King of Portugal, who married Francis I. in



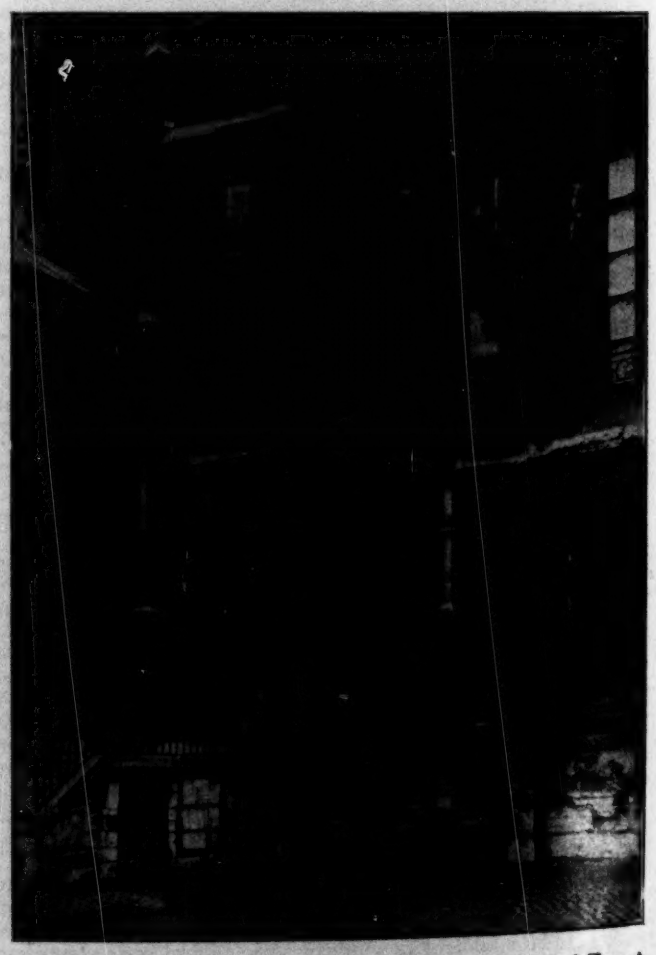
Hôtel Bourgthéroulde, Rouen: Key Elevation.

1530. The window is evidently restored, for a view in Cotman shows an inserted window of crude workmanship. The next panel, No. 2, bears the salamander of Francis I. in a fairly good state of preservation. No. 3 contains a modern casement, and nothing is left to show what the panel below the window was.

No. 4 contains a window which has been filled up, but the breast of the window bears a subject evidently classical, and perhaps from the same source as the panels on the Francis I. wing. On the next stage No. 5 is too much defaced to make out.



Hôtel Bourgtheroulde, Rouen: General View in Courtyard.



Hôtel Bourgthéroulde, Rouen: Detail of Lower Part of Turret.

Hôtel Bourgthéroulde, Rouen: Detail of François Premier Wing.

No. 7 seems to be a salamander again, while Nos. 6 and 8 are of the same type as No. 4, each bearing a seated figure on a car, and some other figures bearing banners, beating drums, etc.

Nos. 9 and 10 are dormer windows richly ornamented with tracery and ogee crocketed hoodmoulds.

The tympana of the window arches are filled in with blank shields with animal supporters.

The front of the buttresses at this stage are decorated with a floral drop enrichment quite Renaissance in feeling. Coming now to the turret, many of the scenes have been engraved by Langlois in his "Description Historique des Maisons de Rouen," and these carvings may be considered among the most interesting in Rouen, not only in subject, but in technique. Much of the relief is exceedingly slight, and to observe the higher portions glasses are almost a necessity.

No. 11 is a fishing scene in the Seine, and is, like all the others, full of detail, the landscape being rendered very faithfully with trees, churches, etc. A gryphon overhead is bearing away a knight, who had evidently been riding by, while the horse stands undisturbed; the Squire, however, seems almost distraught; while on the other side a woman walks peacefully on her way, and in the air a flight of birds is to be seen.

No. 12 is a rural subject: evidently a harvesting scene.

No. 13 is a country scene with shepherds and shepherdesses, quite in the fanciful manner which in later years was identified with Watteau, and the motto:—

"Berger a bergére proptemet se ingere."

No. 14 is a sheep-shearing scene, with sheep and figures round the two central figures, and the motto below it is:—

"Nous sommes des fins. Aspirans a fins."

No. 15 represents a game of *Main chaude*, and has a motto:—

"Passe temps legers nous valent d argent,
Sil ne sont d'argent ils sont de bergers."

No. 16, the last of the series, denotes a picnic scene.

The mottoes are now mostly covered up with a layer of cement weathering, but in the scale elevation they are shown in their old positions. The arabesque enrichment on the angle buttresses is also worthy of note.

This series of reliefs is very interesting, not only in the subject, but also in the manner of application to the space. The windows are inserted in a most unaffected manner, and this has given rise to the suggestion that the carvings were inspired by tapestry hung out over the front of houses during royal processions, of which pageants Rouen must have many times been the scene. The finial, as shown in the photographs, is in very bad repair, but in the elevation the old finial is shown restored. It consisted of thistles, and has always been a subject of discussions among antiquaries.

The whole of this building has recently been carefully restored, and much of the damage done in the past had been made good in a sympathetic manner, but it seems a pity that the disfiguring wood casements were not removed too.

Coming now to the building on the left, the "Gallerie de Champs du Drapeau d'Or," we notice at once the change that has come over the architecture of the time. It is designed in what Britton calls the "Holbein" style, and as an early instance of the François Premier style is invaluable. It fitly carries on the ornate ideas of the late Gothic work, but the whole design and conception are different. It consists of a gallery of six bays, of which five are windows and the sixth a door. The delicacy of the whole effect has been rather spoilt by modern woodwork, which is clumsy and awkward in feeling. The horizontal division is most strongly marked, and the carving is very Italian in feeling.

The design consists of an order of pilasters, framing openings with elliptical heads, supporting a deep frieze, and standing on a high pedestal and plinth.

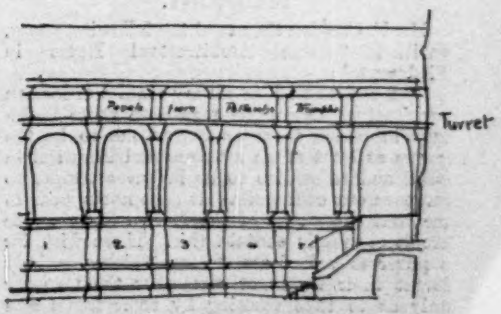
There is hardly a square inch of plain surface in the whole façade. The plinth is ornamented with panels of beautiful conventional designs separated by carved dies. The pedestal contains the wonderful series of reliefs which have attracted so much attention from antiquarians.

Panels Nos. 1 and 2 are rather badly defaced, but evidently represent the processions to the Field, while No. 3, the best preserved of the series, depicts the meeting of the monarchs. The carving is excellent, and the detail marvellous and most faithful. The English King is represented on the left, a clean-shaven figure, while on the right the bearded Francis and his suite are to be seen. Such details as harness, trappings, and uniforms are scrupulously exact, and are worth much study. No. 4 represents the passage of the Cardinals, among whom the Papal Legate is clearly to be distinguished.

The last, No. 5, is the passage of the procession through Ardres, and gives more valuable instances of costume, especially female. The windows are decorated with candelabrum shafts on the jambs, and the pilasters are delicately enriched.

The frieze contains a series of panels illustrating the Triumphs of Petrarch, and each represents a car, on which is seated an allegorical figure, drawn by various symbolic animals. Part of an inscription remains: "Fama vincit mortem Tempus vincit," probably from the Triumphs. The historic reliefs were first accurately deciphered by Montfauçon from indications by the Abbe Nöel, and engraved in "Monumens de la Monarchie Française." They are much covered with dirt, as indeed are the other portions of the fabric.

Over the entrance in the courtyard are medallion portraits of Henry and Francis.



Hôtel Bourgthéroulde, Rouen: Key Elevation. Gallerie François I.

The subject of these reliefs has attracted a good deal of attention; at one time they were supposed to represent the Council of Trent, but more close study might be given to them on this side of the Channel, as they have a great interest for students of English history.

The reason of these reliefs has caused some discussion, but a tradition that Francis I. once lodged here would explain much. The Abbe Leroux would wish to remind his master of the glorious scenes at Ardres, and probably he had some happy memories himself.

It should be noted that the building has been thoroughly restored and repaired, but much of the carving is rapidly decaying.

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In conclusion the suggestion might be offered that architects visiting Rouen with cameras might make a complete series of photographs of the details of this old house, and so render a service to the artist and historian alike before soot and decay destroy the reliefs for ever.

The photographs herewith were kindly supplied by the Librarie Langlois, Rouen.

C. A. H.

MR. W. CURTIS GREEN (President) took the chair on Monday night at No. 18, Tufton-street, Westminster, at a combined ordinary general meeting of the Association and the Camera, Sketch, and Debate Club.

Mr. L. Elkington announced that the next meeting of the Camera, Sketch, and Debate Club will be held on December 4, at 8 p.m., when a paper will be read by Mr. W. J. Palmer-Jones, entitled "Some Notes on Egypt" (with sketches).

The Conversazione.

The President proposed a vote of thanks to all the exhibitors in connection with the Conversazione and also the Exhibition Committee, who had, he said, spent a great deal of time in making such admirable arrangements.

The motion was carried.

New Members.

The following new members were elected on the proposition of the President:—Messrs. S. D. Felkin, Bassett-road, W.; F. Saxon Snell, Cookham Dean, Berks; G. W. Widmark, Earl's Court, S.W.

ARCHITECTURAL NOTES IN PIEDMONT.

Mr. F. C. Eden then read the following paper, entitled "Some Architectural Notes in Piedmont":—

"'I should wish in all my studies of foreign architecture to confine myself to those buildings in which there appear to me to be the germs at least of an art true and beautiful in itself and of service to us in our attempts to improve our own work. It does not appear to me that the works of the Italian Renaissance architects really contain this. If we wish for a purer school of art we must either entirely forget their works or remember them so far only as to take warning by their faults and failures. . . . I see no reason for allowing that they have succeeded in carrying out true principles either of construction or ornament to any greater extent than their imitators in England. The same falseness of construction, and heaviness, coarseness, and bad grotesqueness of ornamentation seem ever to attend their works, together with the same contempt of simplicity, repose, and delicacy which we are so accustomed to connect with them.'*

The accent of architectural criticism has so entirely changed since the year 1855 when Street penned these rather superior sentiments that I suppose they must sound almost like gibberish in the ears of the present generation. It is amusing enough to look back to that dim time when Gothic was the only manner to be studied and copied, and of Gothic only one period, viz., the thirteenth century, and when even "third pointed" was banned as being naughty and debased. Probably our successors will find it no less amusing when they look back on us spluttering in Greek waters and clutching eagerly at straws thrown out to us by the Beaux-Arts.

* Street. "Brick and Marble." Introduction.

The Itinerary.

Still, the words quoted show the feeling with which an architect's tour in Italy was planned sixty years ago—the serious, if misdirected (I do not decide the point), zeal for "a purer school of art," the adventurous search for "true principles of construction and ornamentation," and so forth. Our little tour this evening cannot, I fear, claim to be inspired by any such lofty purpose; and since time is certainly better spent when study is limited to one particular type of building or period of architecture I feel that some apology is due for the desultory, not to say unscholarly, nature of our ramble. . . . Among the districts of Italy Piedmont is by no means eminent for performance in the arts. Even so we shall miss the more important sights, for I can only offer for your contemplation the sort of thing that any traveller in Italian by-ways may come across; in fact, just what Italy of her overflowing abundance spills, as it were, by the roadside.

We shall keep upon the lower steps of that great mountain theatre of which Piedmont forms the stage, with Turin as an approximate focus. Starting just north of Genoa where Apennines end and Alps begin, the great curve sweeps through the Ligurian and Maritime ranges, on whose summits the eye can stretch to Corsica, on the far south horizon, to the mountains of the Engadine, in the north-east; and here we shall pay a short visit to the Val di Pesio. Saluzzo is our next stopping-place, at the foot of the Cottian alps, of which Monte Viso is monarch—Viso, the "visible" or "seen" mountain, a magnificent, almost isolated pyramid, and I believe the only Alpine peak known by name to the ancients. A short turn follows up the Valley of Susa, through which travellers by the Mont Cenis route enter Italy, to visit the Sagra di San Michele. From here the railway takes us in a north-easterly direction, passing by the famous valleys of Lanzo, Aosta, and Gressoney, to Biella, at the foot of the Pennines, half on and half off the plain; thence to Orta, where Piedmont is left behind.

The Certosa of Pesio.

Many years ago, in the now defunct journal, the *Pilot*, I came across an article by a well-known Alpine climber, telling how he had gone to the Certosa of Pesio with the intention of making it a starting-place for climbs in the Maritime Alps, but was so fascinated with the beauties of the place that he stopped for six weeks without making a single ascent.

This seemed an attractive advertisement; but on visiting the place one September we found it closed for the season—I should say that the monastic buildings are now an hotel—and so were obliged to stay at a typical Italian village inn, where we found such modest comfort that I have stayed there on more than one occasion subsequently. The nearest town is Cuneo, whence it is a drive of about twelve miles to the Certosa, the last six of which are occupied in the ascent of a lovely chestnut-grown valley, at the head of which, and at the end of a fine avenue, the buildings are placed. [Certosa is, of course, merely Italian for Carthusian monastery or Charterhouse.] The situation is enchanting, and still seems pervaded by an air of monastic serenity and recollectedness. High walls rise from a steep grassy bank over the impetuous torrent of the Pesio. A covered bridge adorned with paintings spans the river in a single arch, and is the only means of approach to the convent grounds. Opposite the bridge is the main entrance through which one passes to the cloisters, which are of vast extent—one can walk through 800 yds. of them—and still show many marble shafts and carved capitals, dating from the end of the twelfth century, when the monastery was founded.

Saluzzo.

Saluzzo is the sort of town where you come across things, not the least unexpected of which is the absolutely pure French Gothic choir of S. Giovanni. It exhibits no traces whatever of what Street called "that modification of the pointed style which distinguishes the cities and churches of the north of Italy." It was built about the middle of the fifteenth century by Ludovico, first marquis of that name, of a fine dark-grey stone, which still retains every minutest mark of the tool on its delicate carvings. A memorial of an earlier marquis, Federigo II., is the Castle of Verzuolo, a few miles out of the town. It dates from about a century earlier than S. Giovanni, and is a great four-square pile of brick, now in private hands, and perhaps rather too trim and fresh. The town itself contains interesting works in the same material, of which the façade of a desecrated church is a fair sample. A nineteenth-century worthy, the Marchese Tapparelli d'Azeglio, was a great benefactor to the town. Besides presenting it with the Casa Cavassa, a very fine specimen of a Cinquecento house, retaining much contemporary decoration very well preserved, he endowed the hospital with some lands in the parish of Lagnasco. On this property are two so-called *castelli*, less like castles than deserted villas, facing one another across a grassy court. Of no particular interest externally, their interiors well repay the fatigue of a rather tedious walk; here are painted wooden ceilings, chimney-pieces, floors of good old glazed and patterned tiles (rather rare in Italy), and many scraps of detail suited to find a place in an architect's sketch-book.

S. Ambrogio, etc.

Most people who approach Turin by the Mont Cenis route are too busily occupied in the luncheon-car to take much notice of the remarkable scenery of the Valley of the Dora. If, however, one should chance to look out to the right shortly before passing the station of S. Ambrogio he will notice an abrupt mountain jutting into the valley. Wooded below, precipitous and rocky above, it is surmounted by what looks like a castle standing among ruined outworks, calculated perhaps to stimulate the faint curiosity that ruins are wont to evoke. It is not, however, a castle, but an abbey, the Sagra di San Michele.

The unattractive little town of Sant' Ambrogio, at the foot of the mountain, of some importance in the old coaching days, lay quietly asleep for a while after the railway had supplanted the Mont Cenis road, but is now feeling the low form of life which the presence of a large factory generates, stirring under the grime. S. Pietro, a village about 1,000 ft. above the plain, is reached by a steep and stony mule-track in something under the hour. The path then makes a traverse across the slope till the arête is reached, when it doubles back and follows the crest to the summit, from which the Sagra looms 500 ft. above the village.

Benedictine Monastery, Monte Pirchiriano.

Some time before the middle of the tenth century a recluse from Ravenna had built a small oratory on the top of Monte Pirchiriano, as it is called. At the end of the century a Frenchman, Silvester II., was Pope. He had made many voyages to and from Italy by this route, the usual one for French pilgrims. It was by his advice or command that Hugo di Montboissier, an Auvergnat noble, acquired the site and founded thereon a Benedictine monastery, the establishment of which, as the Pope was well aware, would be extremely useful to his countrymen on their journey to Rome. As the institution increased in numbers and importance the church was found insufficient, and the buildings we now see belong to a later period. The plan makes the successive demolitions and reconstructions fairly clear. Of the early oratory part still exists embedded in the walls at the far end of the crypt, as well as one wall of the primitive hermitage. Hugo's church, with its three apses, is to be traced under the floor of the present church, and part of it still stands outside the present west wall, and is known as the Old Quire (Coro Vecchio). This dates from about 1002.

To the time of Hugo also belong the monastic buildings on the south side of the church, surrounding a small irregular cloister. The extensive outbuildings to the north, now entirely in ruins and of uncertain use, date from the second half of the eleventh century, as well as the likewise ruined guest-house near the entrance.

Hugo's church extended both eastwards and westwards to the limit of the available building space, so when enlargement became necessary an artificial platform had to be formed by the erection of an enormous substructure upon which to build the eastern limb of the church. This was begun about the middle of the twelfth century. The former church was demolished

by degrees, and it was not till the next century that the western bays of the present church were completed.

The precincts are entered by a fortified gate-house, the iron-sheathed door of which is indented by many bullet marks; a steep double ramp leads to a small terrace, whence it is a further climb of about seventy steps to the main entrance. The great square fortress-like mass is the twelfth-century substructure above alluded to, and is built of a brownish-grey gneiss. The church itself is clearly distinguished from the basement both by its apsidal form and green hue, the material used being an amphibolite, found in erratic blocks scattered about the mountain-top.

The whole interior of the space below the church is occupied by a stair, the *Scalone dei Morti*, in part cut out of the living rock, surrounded by huge sepulchral recesses, and strangely impressive in its grim dignity. Some of the recesses contain sarcophagi, but one is grated, and, as the eye becomes accustomed to the dim light, is seen to be occupied by a huddled group of skeletons, clad in tattered monastic habits. As Massimo d'Azeglio wrote:—"In this cavernous solitude, where the silence is broken only by the whistling of the wind, it would be impossible to find more fearful company or more suited to the spirit of the place." I know nothing at all parallel in English architecture except the stairway to the Chapter House at Wells, which, however, in comparison, seems almost an exquisite trifle.

At the top of the stair is a fine Lombard doorway, the *Porta dello Zodiaco*, richly carved with signs of the zodiac and mythological monsters. After passing through this doorway you turn sharply to the right and mount a temporary wooden stair through what was formerly a library and sacristy, but is now practically a ruin owing to a besotted "restoration," still in hand, though I believe it has been suspended for twenty years or more. A model exists of the completed scheme. Heaven grant it may never come to fulfilment! The door of the church is richly moulded and apparently of thirteenth-century date. In its present deplorable state it is difficult to appreciate the church, and I shall not attempt to do so.

Biella.

Biella is reached in between two to three hours from Turin. It is a bustling little town, the centre of an important weaving industry. For miles up into the hills every stream works a series of mills, either directly or by electric transmission, and, in consequence of the absence of smoke, with the minimum of injury to the landscape. As might be expected from its position, Biella consists of an upper and lower town. In the former are several houses of mediæval date, with terra-cotta string-courses enriched with Gothic foliage showing through later trappings. At the end of the main, or rather only, street of the upper town is a Renaissance gate, from outside which the white buildings of Oropa may be descried perched on a mountain shelf more than 2,000 ft. above. The origin of this famous sanctuary was on this wise. About the middle of the fourth century S. Eusebius, Bishop of Vercelli, was banished to Palestine by the Emperor Constantius, a fautor of the Arian heresy. On his return he brought with him a cedar-wood image of the B. V. M., traditionally attributed to S. Luke, which he exposed to the veneration of the faithful of his diocese. But, being further persecuted by the Arians, he fled to the mountains of Oropa, taking with him the sacred image, which he concealed beneath a boulder of rock. On the cessation of this outbreak he built a rough votive chapel for the image, and this, which still exists, forms the nucleus round which the whole immense structure has clustered. This was in the year 369, so that, though the buildings of the church and hospice are of Renaissance date, and some very late, it will be realised that the sanctuary can boast a very respectable antiquity. When Dante was writing the "Divina Commedia" and Giotto was painting the Arena Chapel at Padua it was already nearly a thousand years old. A Benedictine community established itself here in the sixth century, and remained till their convent was overwhelmed by a landslip from the Mucrone in 1030. Fifty years later more Benedictines followed, to give place in 1170 to Cistercians, the last monks to occupy the valley, who remained till 1459, when Pope Pius II. gave charge of the sanctuary to the canons of Biella.

The present church was begun at the end of the sixteenth century, and was consecrated in 1600, when the Bishop of Vercelli appointed a mixed clerical and lay Committee to administer the property of the institution. Shortly after this a design for a hospice for the accommodation of pilgrims was prepared by the architect, Negro di Pralungo, and the part adjacent to the church was begun. In 1644 the block enclosing the quadrangle on the entrance side was started, and in 1720 the façade was erected from designs by the celebrated Filippo Juvara.

Samuel Butler's description gives a fair notion of the general appearance and situation of the buildings. "Fancy," he says, "a quiet upland valley, the floor of which is about the same height as the top of Snowdon, shut in by lofty mountains upon three sides, while on the fourth the eye wanders at will over the plains below. Fancy finding a level space in such a valley watered by a beautiful mountain stream, and nearly filled by a pile of collegiate buildings, not less important than those, we will say, of Trinity College, Cambridge. True, Oropa is not in the least like Trinity, except that one of its courts is large, grassy, has a chapel and a fountain in it, and rooms all round it; but I do not know how better to give a rough description of Oropa than by comparing it with one of our largest English colleges." Just before the hospice is reached the road passes a grassy slope dotted with chapels that contain groups of life-sized figures. They are built of granite, with plastered walls and roofs of dark stone slabs, similar in these respects to the main building.

The forecourt is entered through iron gates between the terminal pavilions of two immensely long wings. The ground slopes up to a finely-designed stair, which lands you about level with the fourth story of the pavilions. The ground floor on each side of the entrance is formed of open arcades, extending the whole depth of the front block. This loggia, which forms such a striking feature of the design, from whichever side you may be looking, is strictly utilitarian, viz., to shelter the multitudes of pilgrims from the weather, Oropa being the wettest place in the whole of Italy.

For how much of the façade Juvara was responsible I am unable to say—certainly for the grand stair and the central pedimented feature; whether the fine conception of the open ground story was his is doubtful, since this side of the quadrangle was begun, as we said, in 1644, nearly eighty years before he comes upon the scene. The great quadrangle measures about 420 ft. by 230 ft., and is surrounded by a cloister walk, for the most part arcaded in that pleasant combination of arch and lintel falsely attributed to Palladio.

The hospice gives free lodging for nine days to all comers, of whom there have been more than 100,000 in a single year. On great festivals the crowds are so great that shake-downs are spread in the corridors for the latest arrivals, by which stretching of the normal accommodation no less than 10,000 guests can be put up. Even with this enormous capacity there is a scheme on foot for nearly doubling the size of the establishment, including the erection of a huge domed church in the high ground at the back. A beginning has already been made after designs by an architect named Galletti, who flourished, as all architects do, about the year 1750.

Orta.

From Biella to Orta, which is on the extreme confines of Piedmont, if indeed it be not actually in Lombardy, it is a lovely drive of about eight hours, passing the little country town of Mosso S. Maria on the way.

Orta is chiefly known for its beautiful lake, but the little town, consisting of a single street, is full of good things. The Town Hall at the end of the piazza is a most picturesque object, adorned with fading heraldic frescoes. Just off the piazza on the way up to the church is the Palazzo Gemelli, a striking unfinished house, with a great painted cove under the eaves, the *piano nobile* being defined by a band of cherubs below the windows and representations of the four continents above.

The entrance door is a refined piece of work, something more than reminiscent of Vignola at Caprarola. The cartouche attached to the key-stone is dated 1591, about forty years after the building of Alexander Farnese's great palace; but the cartouche looks rather later than the doorway itself, and is only stuck on. The detail is an improvement on Vignola's doorway in some respects—*e.g.*, instead of the metopes being charged with rather dullish ornament they are plain, and filled in with the dark-green serpentine, of which such excellent use is made in the buildings of the Sacro Monte.

In front of the palazzo is a broad paved and balustraded terrace, terminating in a pretty arrangement of steps.

The principal attraction to architects at Orta is the Sacro Monte, of which I have spoken before in this place, and so need say nothing about it now except to remind you that it consists of a series of chapels containing representations of scenes from the life of S. Francis. But, if you will allow me, I will show a few slides from photographs taken since the date of my former lecture.

Our trip through Piedmont is now at an end, but we have to get back to England somehow or other, so if you would care to see them I have some views of places taken on the return journey.

Lugano.

The first is the Loretto Chapel at Lugano; it is rather out of the way, and so is generally missed. It has a large portico before the entrance, the vault of which is ornamented with good modelled plaster cartouches and drops.

The shores of the Lake of Lugano are studded with picturesque villages, that of Castello, on the Italian side, being one of the most striking.

The town of Troyes, the capital of the department of the Aube, which lies on the main line between Basle and Paris, is remarkable chiefly for its stained glass and for its fifteenth and sixteenth century figure sculpture. The only slide I have to show, however, is a fine iron lectern, and two rather interesting Gothic doorways."

In conclusion, Mr. Eden exhibited a photograph of a house just opposite Abbeville, now in the occupation of the Banque de France, and also slides of several Renaissance doorways, and some ironwork from that remarkable Church of S. Riguiér.

Mr. A. Horsnell

proposed a vote of thanks to the lecturer, who, he said, had shown them some charming work. He felt that very often in the simpler use of the Orders contrasted with large wall surfaces there was something more useful than the Rococo churches of Rome.

Mr. A. G. R. Mackenzie

seconded the motion, and said, although the author might accuse him of being a little of a Goth, yet he was inclined to believe in the dictum of Mr. Street which had been quoted. He failed to see the use of such architecture under modern conditions. The beauty of the colonnade shown was due to the columnal effect, but he thought beauty could have been obtained without the freedom which the Italian architects of the period allowed themselves.

Mr. Geoffry Lucas

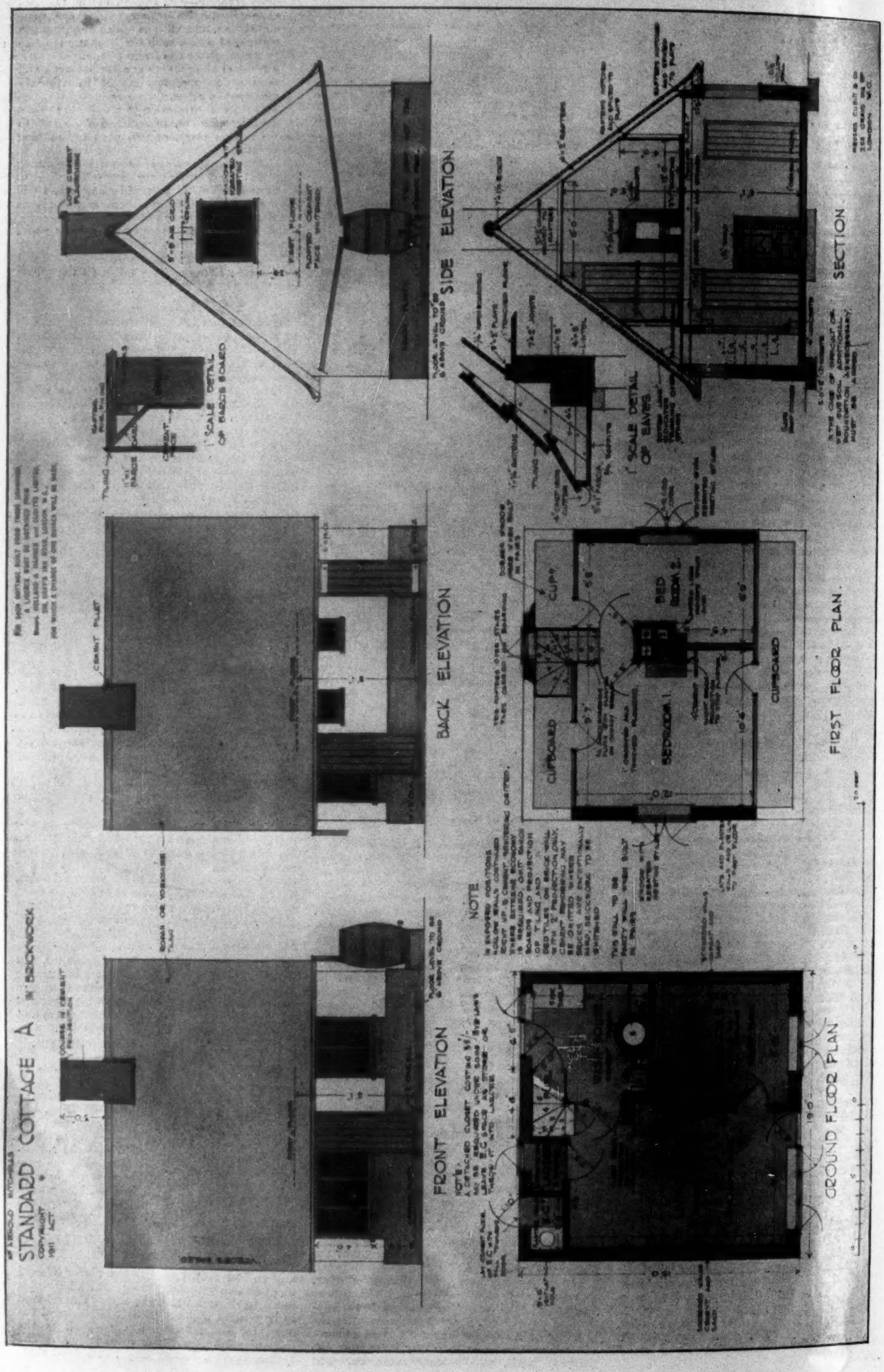
said a thing which struck him as peculiar, and which he felt was a fault, was that in the colonnade of the monastery referred to there was no abutment for the three arches which spanned its breadth. It seemed weak construction, and he wondered how it stood.

Mr. T. C. Yates

criticised the fashion of Italian architects in painting architecture upon wall spaces. It made one long for a piece of blank wall. In Milan he was struck very much with the vaulting, but on close inspection he found a great deal was painted. Some of the painting had worn away, and they could see the plain material underneath. A thing which surprised him was how they got the building materials to the tops of the hills. The Sagra di San Michele was a wonderful building, but he wondered how the poor beasts got on who had to draw the material to the top of the hill.

Mr. J. L. Williams

said he had visited most of the places referred to, and there were many things which impressed one. In the wall which the author had referred to he noticed that the frieze which formed the lintel for the columns had on each of the sections what they called a mitre joint. The Italian masons, finding they had a hard stone



The Cheap Cottage.

to work, did not make what in this country they called a mason's joint. They could imagine it looked unsatisfactory, but from the practical point of view it impressed one as being economical. In the iron and wooden grills also they found the mechanics who executed the work had behind them a vast amount of information. Another thing which impressed him was the marvellous freedom of the work. Judging from the text-books, he had thought the whole thing was very mechanical, but if they looked into the work closely they would perceive the great skill of the individual Italian workman, and he thought that most of the chapels owed much of their merit to the mechanics who worked on them, and less to the drawing-board and the architects. With regard to the criticism of Mr. Yates as to decorated surfaces, what he (the speaker) felt was the great charm of the huge surfaces which were left untouched. As to the materials used in building, that was mostly quarried on the site, and the builders used great skill in utilising the actual material on the spot.

Mr. C. W. Bowles also supported the vote of thanks.

The President

said that he had not got quite so far South as Mr. Eden had taken them. He went on what he might call an ordinary layman's holiday, expecting to see nothing at all, and was enormously impressed with the seventeenth-century chapels and some of the more ornate and even gorgeous churches. He could not help thinking that it was a period of architecture which had been very much neglected in their studies, and which would repay study. It seemed to him that some of those romantic little chapels on the mountainside were a sort of revulsion after the Reformation—a sort of counter-reformation. He supposed this neglected period of the seventeenth century contributed more directly to modern architecture than any other period. If they studied the plans of some of these wonderful churches, such as the Chapel and Avenue at Oropa, what a wonderful piece of planning it was! Think of it as it applied to their present town-planning problems. It was the genesis of town planning. Of course, hitherto they had only heard of the faults of these people, but it seemed to him that the faults of the period came from rather too much familiarity with what they had to do; they were so frightfully at home. It was once said of a celebrated divine that he was far more at home in heavenly places than he had any right to be. The faults of the seventeenth century were largely due to the fact that these men did their work so easily. They had mastered the principles of the art and were faced with no special difficulties, and they took liberties which had brought all they did into disrepute; and they were only just beginning to see the enormous amount of real genius there was in their work. Heaven forbid that their researches should result in a Baroque revival. With regard to Baroque and Rococo architecture, he did not exactly know the difference until he read the book of Mr. Martin Shaw Briggs, who told them that "Baroque architecture is Italian described by a French name, and Rococo is essentially French, and is known by an Italian name. Rococo is loosely applied to any over-decorated building. Baroque applies to an historical period in Italy."

The motion was carried.

Mr. Eden,

in reply, said the mass of blank wall space so commonly found in Italy was one of the greatest charms to him. Another curious thing was the way in which the Italians delighted in setting great solid walls over very slender supports. In the Doges Palace they saw an immensely high wall over an open colonnade, although in that case the supports were not slender. The President had deprecated the idea of a Baroque revival, and he quite agreed with him, but Baroque had almost two distinct styles—one was the very heavily-loaded ornate style, pompous, and even vulgar, which they did not want to see, and the other was the very simple style, exhibited to a great extent in some of the buildings he had shown. He thought when they got simple Baroque it had extraordinary charm.

The President announced that the next meeting will be held on December 8, at 8 p.m., when a paper will be read, entitled "Portuguese Architecture," by Mr. W. H. Ward, M.A., A.R.I.B.A.

THE CHEAP COTTAGE.

THE question of rural depopulation has become a most urgent one, and the steps that can be taken to cope with it largely depend on whether the man whose wages vary from 14s. and 15s. to a pound a week can be housed at a figure which will render it possible for private owners, farmers, companies, and others to build accommodation for the labourer on terms which will render the outlay a commercially sound one.

Otherwise nothing will stop the steady drain of population from country to town, incidentally bringing with it an increased volume of emigration and unemployment; and such a movement must, in the long run, be followed by land passing out of cultivation and an increased dependence on foreign foodstuffs, a deterioration in the physique of the people, and a decreased power of purchasing as the national wealth declines.

It is true that we can, by legislation, fix a minimum wage, but we cannot compel the employment of labour, but only put artificial restrictions on the free relations of employers and employed.

We do not for a moment mean to say that legislation may not be devised which will assist those classes who live on the land, but we most emphatically think the greatest of all services which can be rendered is to arrive at the best way in which the poorest classes in the body politic can be comfortably housed.

It was, therefore, with great interest that we visited the cottage designed by Mr. Arnold Mitchell, which has been erected by a local builder at Great Baddow, in Essex, for £110, this figure including an establishment charge of 12½ per cent. and a builder's profit of 10 per cent.

By the courtesy of Messrs. Cubitt & Co., to whom Mr. Mitchell has parted with his rights to this design, which he calls "Standard Cottage A," we are enabled to reproduce a working drawing of the cottage, and we also reprint the specification in our columns, in order that our readers may see for themselves what it is possible to do with so small a sum.

The design has been registered, and a licence to use it must be obtained from Messrs. William Cubitt & Co., 258, Gray's Inn-road, W.C., for which a payment of £1 1s. has to be made.

Messrs. William Cubitt & Co., in reporting to Mr. Mitchell as to the cost of the cottage, say that they consider the figure at which the cottage can be built would probably vary from £100 to £120 if carried out by small local contractors on the spot, but they also think that by building such cottages in considerable numbers and standardising fittings and parts cottages could be built at similar figures by the larger employers of labour.

The design we illustrate does not represent what many authorities in the country would like to give a labourer, but it does represent what can be built and let for a rent of 2s. 6d. a week, allowing for a reasonable profit on the transaction.

To those earning minimum wages in agricultural districts every penny which has to be spent in rent is an important consideration; and, looked at from this standpoint, we feel justified in stating that in our opinion the design solves a most important problem, and is therefore of the greatest importance from a public standpoint.

It may be stated here that the cottage as designed would not satisfy by-laws in force in some districts in certain minor particulars. The earth closet, which is here incorporated in the main building, though approached from outside, must be a separate and detached building in many districts, which would involve an additional expenditure of a few pounds. The provisions as to the proportion of flat ceiling in bedrooms in the roof in some by-laws would not be complied with by the cottage as designed, but if it gives, as we think it does give, what is really required from a hygienic standpoint we have rather to amend such by-laws in minor particulars than to make it impossible, as it would be, to build cottages at a low figure of cost; and for this reason we do not think the points mentioned really militate against the merits of the design.

Again, we understand that the Small Holdings Committee, which has been dealing with the question of housing, are of opinion that the living-room should be 15 ft. by 11 ft. in area instead of as here, 15 ft. by 9 ft.; but we are of opinion that the dimensions adopted in the design are in reality sufficient. Superficial area is not alone a factor in considering accommodation; convenient arrangement of doors, windows, and fireplaces, and the shape of a room will often give more usable space in the smaller of two rooms, and it is in this respect that the cottage we illustrate has been exceedingly well considered in every detail. Taking the smaller of the two upper bedrooms, it will be seen that a convenient space is provided for a double bed beyond the window, leaving the rest of the floor space free; and the larger bedroom contains ample space for another double bed and cot. The staircase, though occupying a small space, is easy, and provides sufficient space for carrying a coffin.

The Small Holdings Committee also state that the larder should be sufficiently large to accommodate a whole pig; but this, while an important factor in those parts of the country where it is customary to give the labourer a pig at stated times, is not so in other districts, in which a larder of so large a size would be unnecessary waste of space.

The specification, as will be noticed, does not provide for laying on water to the building; but this, again, is in most cases not found in rural districts where water for several cottages is obtained from a common well or pump.

The doors and windows of the living-room are so placed that draughts would be obviated, and the same consideration of small details will, throughout, be found to characterise the design. The front door into the living-room—a concession to prejudice, since it is seldom used in cottages—might well be omitted, and is, we understand, being so omitted in some cottages which are being built to this plan.

Among the clever ways in which economy has been secured may be mentioned the construction of the upper floors. The joists used are only 7 in. by 2 in. in size and 16 in apart, but, owing to the fact that they are fixed to the feet of the rafters, they are kept in tension, with the result that an absolutely rigid and firm floor is obtained with the use of a minimum amount of material.

By omitting a ceiling to the living-room height is saved, as in a cottage the bed and living rooms are infrequently used at the same time. The objection to this as making the cottage less soundproof does not seem to us to be important.

The range with a large oven under the fire is an excellent one, and can be converted into either a closed or open fire; the smaller fireplaces are all that is required in a cottage. The small upstairs bedroom, which has no fireplace, is provided with a grating over the window to comply with the usual clause in the by-laws.

We give for the information of our readers the superficial areas which are given by Mr. Mitchell as compared with those recommended by the Small Holdings Committee:—

—	Mr. Mitchell's Cottage.		Minimum accommodation recommended by Small Holdings Committee.	
	Superficial area.	Cubic content.	Superficial area.	Cubic content.
Living-room	135	1,112	180	1,440
Scullery	56	448	81	648
Larder	8	64	24	192
Bedroom—1	125	832	150	1,200
Do. 2	77	539	100	800
Do. 3	67	539	65	520
TOTAL ..	468	3,536	599	4,792

The design has been adversely criticised because it falls below this standard, and, compared with a cottage designed by Mr. F. W. Troup, and erected at Lingfield at a cost of £199, we admit the advantages obtained—larger rooms, a bathroom, more space for fuel, and an additional fireplace; but from the standpoint of the labourer we ask whether he would be willing to pay a rent of nearly double the amount for these advantages? The criticism as to the disadvantage of placing an earth closet next a larder appears to us to be far-fetched. The advantages claimed for the larger type of cottage are said to be worth paying for, and are so, provided the means exist to pay for them. But every penny spent in rent means a smaller margin for food and clothes. The choice is one of disadvantages.

As we have said, we believe the cheapest of all forms of building would, in rural districts, prove to be some system of wooden framing

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similar to that used in America; but little economy would be found to result from the use of such framing if it were necessary, as it would be in country districts where wooden construction is permissible under the existing by-laws, to provide a brick base.

Cheap wooden construction necessitates providing brick or other bases for a few main beams and uprights on which the whole of the superstructure is built up—a method which would entail the framing of entirely new by-laws applicable to the specific type of construction.

STANDARD COTTAGE A.

SPECIFICATION.

Note.—A water supply must be available for the use of the contractor.

Local Authorities.—Contractor to give all notices, comply with the regulations of the local authorities, and pay all fees that may be legally demanded.

Workmanship and Materials.—Contractor to be responsible for the correct setting out of the work, which is to be of the best; to find all labour, plant, scaffolding, etc., and materials as specified.

Insurance and Damage.—Contractor to insure against fire throughout the progress of the works for the full amount of the contract, and to deposit policy with building owners. He is also to be responsible for all claims under the Employers' Liability (Workmen's Compensation) Acts, and also for any damage done to adjoining property by his workmen.

Completion.—Contractor to remove all plant, rubbish, etc., and leave all clean, complete, and ready for occupation.

Excavation.—Level site, excavate surface earth to a depth of 3 in. over area of cottage, excavate for foundations to depths shown on drawing, and deposit and well ram surplus earth from trenches to make up levels under floor of cottage, so that when finished the same is 6 in. above ground outside.

Concrete.

The concrete in foundations of external walls and under chimney breasts to be 8 in. thick, and to be mixed in the proportion of 1 part of cement to 8 parts of clean ballast, or other suitable hard material, with a due proportion of sand. Lay a concrete raft 4 in. thick over entire internal area of cottage, finished on top with a cement floating 1 in. thick, composed of 1 part of cement to 3 parts of sand, and trowelled to an even surface.

The floor of closet to be laid to a sharp fall to doorway.

Form concrete hearth 3 in. thick in bedroom on first floor, and finish with a cement floating 1 in. thick as to ground floor.

Brickwork.

Bricks.—Bricks to be sound, hard, square, and well burnt. The bond to be Flemish, the joints well flushed up, and neatly struck where exposed as the work proceeds.

Mortar.—Mortar to be composed of 1 part well-burned grey lime to 3 parts of clean, sharp sand. If walls are built in cement mortar the proportion to be 1 part cement to 8 parts of sand.

Walls.—The base of external walls to be built hollow in two 4½-in. thicknesses, stretcher bond, with 1½ in. space between, thereby forming a plinth 1½ in. projection on outside as shown.

The walls above to be built solid, 9 in. thick. Note.—In exposed situations the external walls to be built hollow the entire height (no outside projection), and with an iron tie built in to every yard super. of area.

Damp Course.—The damp course to be of slate set in equal parts of cement and sand, and fixed two courses high above ground in outer 4½-in. wall and one course high above ground in inner 4½-in. wall.

Chimney-stack.—Build chimney-stack to a height of 3 ft. above ridge level and face with picked bricks, the top course to be built oversailing in cement mortar, and finished with a shallow cement flaunching. Flues to have regular and easy bends and parged with lime and hair mortar.

Core all flues on completion.

Fixing Slips.—Build in fixing slips to all openings as the work proceeds.

Chimney Bars.—Supply and fix 1½-in. by ½-in. flat chimney bars to all fireplace openings.

Ventilation.—Provide and fix in one gable a 9-in. by 9-in. cast-iron air grating as shown, and leave a 9-in. by 6-in. opening behind sanitary pail at floor level in earth-closet for ventilation.

Fireplaces.—Build 9-in. brick jambs and frieze of picked bricks to all fireplaces, slightly projecting in front of walls to stop plaster, and neatly pointed.

Stoves and Ranges.—Properly set stoves and range in good hard, fire-resisting bricks, and neatly render in cement around back and sides of openings.

Provide the p.c. sum of 3s. each for 12-in. Mason's stoves to be fixed in parlour and washhouse, and p.c. 2s. 9d. for 9-in. Mason's stove in bedroom. The hobs are to be formed in brick.

Provide the p.c. sum of £1 8s. 6d. for a 24-in. special-made range for living-room.

Copper.—Build brick copper where shown, with heavy cast-iron bottom grate and strong 8-in. furnace door and frame, and provide and set an 8-gallon rustless pan. Connect to flue, and provide and fix a cast-iron damper and frame in same. Render on top of copper and about 3 in. down the front and sides with cement and sand, finished with a float.

Finish of Walls, Externally.—Render external walls above plinth with one coat cement and sand, gauged 4 to 1, finished rough, with a wooden float on which a piece of felt has been nailed, and afterwards limewhite with two coats applied hot and mixed with oil or fat when made. Chimney-stack not to be rendered or whitened.

Note.—In districts where stone is cheaper than bricks the walls must be built of the customary local thickness, and finished as is usual in the district, any additional thickness being added externally. The partitions and chimney-stack to be built of brick.

Tiler.

Tiling.—Cover the roof with Roman, Yorkshire, French, or patent cement tiles, laid on 1-in. by 3-in. good battens. Verges to be nailed with two nails to each tile and bedded and pointed in cement.

Old roofing tiles may be used if obtainable.

Ridging.—Set in cement mortar half-round red ridge tiles, pointed with cement, and run a cement fillet around base of chimney-stack at junction with roof.

Slating.—In a slate district, or where slates are cheaper than tiles, the roof may be slated, but these should not be used if it can be avoided.

Where a specially artistic appearance is desired, reed thatching may be used, but it must be done by local labour accustomed to the work.

Leave roof sound and perfectly water-tight on completion.

Carpenter and Joiner.

All deals, battens, boards, and other timber to be good yellow deal, of "thirds" quality for carpenters' work, and "seconds" for joiners' work, all clean, sound, dry, and free from defects.

Oak to be of English growth, clean, close-grained, and well seasoned.

Lintols.—Provide and fix 4-in. by 3-in. lintols over all door and window openings, except to the living-room, which is to be 7 in. by 3 in. The faces next rooms to be wrought and kept flush with the plaster.

Floor.—Wall plates to be 4 in. by 3 in., properly bedded. Joists, 7 in. by 2 in., wrought on both sides and bottom edge, and securely fixed on plates, at not exceeding 18-in. centres.

Properly trim for hearth and around chimney breast and to stairs, and fix boarded centring for hearth, fair on underside.

Roof.—Roof to be constructed as follows:—

Sole plate, 2 in. by 3 in., spiked on top of floor joists.
Rafters, 2 in. by 4 in.
Ridge, 1½ in. by 7 in.
Collars, 2 in. by 3 in., halved to rafters.
Studding 2 in. by 3 in., properly notched, throated, and tenoned together.

The spacing of rafters and studding not to exceed 12 in. in clear. Fix 1-in. by 3-in. facia and ½-in. boarded soffit beneath feet of rafters; 1-in. by 11-in. wrought and chamfered barge board properly fixed at an angle to an external rafter, as shown in detail. The end of ridge and heads of partitions to be carried through the walls for fixing this rafter to.

Joiner.

Flooring.—Lay 1-in. well-seasoned, grooved and tongued flooring on upper floor, well cramped and nailed. Fix ½-in. by 2-in. chamfered skirting, well nailed and plugged to walls around bedrooms.

Windows.—Fix to all window openings rebated frames and mullions out of 3½-in. by 2½-in. yellow deal, with 5½-in. by 2½-in. deal, sunk weathered and throated sill.

Casements to have 1½-in. by 1½-in. styles, 1½-in. by 3-in. bottom rails, and ½-in. by 1½-in bars.

All sashes and frames to be properly tenoned and wedged together and framed square.

In the case of the gable windows, the casements are to be made with rebated meeting styles to take the place of the mullion, and the frame is to have a 4-in. head, with 1½-in. by 1½-in. weathered and throated fillet nailed on outside, flush with rebate.

Casements where shown to open to be hung with 2-in. cast-iron butts, and to have steel casement stay and wrought Cockspur fastener or bolts as required.

Linings.—Provide to all window openings 1-in. tongued linings let into groove cut in frames and made to finish flush with plaster, the back edge to be slightly rounded to form a V-joint with the plaster. The back edge of door jambs to finish in the same manner; thus no architraves are required.

Fix 1-in. window boards with rounded nosing to project ½ in. in front of plaster.

Doors, Frames, and Linings.—All external doors to have rebated frames out of 3½-in. by 2½-in. yellow deal, and 2-in. by 4-in. oak sills, properly tenoned together. All other openings to have 1-in. linings (equal in width to the thickness of the wall), with stops nailed on. All doors to be of 1-in. wrought V-jointed battens, with three ledges each, and having ends screwed, and hung to frames with strong strap hinges, and each door to be provided with a Canadian latch, the front door in addition to have a 6-in. dead rim lock and two iron bolts. In addition to latches put two iron bolts to door of washhouse and one bolt to inside of earth-closet. Door frame of earth-closet to be dowelled to floor; no oak sill required.

Cupboards.—Form cupboards where shown in bedrooms with ½-in. match lining fixed to underside of rafters, and provide and hang ½-in. matched and ledged doors to these cupboards, fitted with knob and button.

Form the staircase enclosure in similar manner to last, and with 2-in. by 2-in. studs and rails. The space under stairs forming fuel store to have a dwarf door of similar construction to other cupboards.

Shelves.—Fix three 1-in. wrought shelves, 18 in. wide on 3-in. fillets, in larder, and 1½-in. mantel shelves and brackets as shown to fireplaces.

Fix a wide 1½-in. shelf in washhouse on proper fillets and legs for washing-up purposes.

Staircase.—Form staircase with 1½-in. treads, with rounded nosings and ½-in. risers, tongued into same, and all properly fitted, wedged, glued, and blocked together; fix 1½-in. strings, with housings for tread and riser cut in same. Newels to be out of 4 in. by 4 in.

Closet Seat and Copper Lid.—Provide and fix on strong bearers a 1-in. deal ledged seat to closet, with proper shaped and dished hole cut in same; also provide a 1-in. deal lid, with shaped handle, for copper.

Rainwater Butt.—Provide a clean butt to hold not less than 100 gallons, with draw-off tap, and place in position where shown on strongly-built brick supports.

Ironmongery.—Provide the p.c. sum of 17s. 6d. for ironmongery, and fix same complete.

Smith.

Gutters.—Supply 4-in. half-round, cast-iron eaves gutter, fixed on brackets screwed to facia, and with return lengths fixed to wall on proper brackets, carried round to discharge over the water butt. The joints to be made with red-lead putty, and gutters to be painted before fixing, both inside and out, with red-lead oil paint.

Closet Pan.—Provide a proper galvanised sanitary pail for earth-closet (the contents to go upon the land).

Plasterer.

Walls.—Render all walls (except those of earth-closet and washhouse) with one coat of cement and sand, mixed 1 to 6, the surface to be finished with a wooden float. The wall in larder next earth-closet is to be rendered, but the remaining walls to be left plain.

Partitions and Ceilings.—Lath the partitions and ceilings of bedrooms and the ceilings of earth-closet and larder with stout sawn laths, clean and free from sap and properly nailed, and render same with one coat of cement and sand mixed 1 to 6, with a proportion of lime and hair mixed 3 to 1 added, the surface to be finished with a wooden float.

Glazier.

Glaze all windows with 15-oz. clear glass, well puttied and back puttied, and left clean on completion.

Painter.

All painted work to be thoroughly rubbed down and stopped. All white lead to be genuine old lead.

Distempering.—Twice distemper white all ceilings and plastered or other walls, also the underside of floor boards forming the ground-floor ceiling.

Externally.—Paint all ironwork one coat of genuine red-lead paint before fixing, and three coats of best oil colour after fixing.

Knot, stop, prime, and paint with three coats of best oil colour all doors, window frames, and other woodwork.

The windows in gables and the barge boards to be finished white, all other external paintwork a bright green.

Internally.—All internal woodwork, including the ceiling joists of ground-floor rooms, but not the treads and risers of stairs, nor shelving, to be stained with a green or brown stain.

Black stoves and range.

Attend upon, cut away for, and make good after all trades, clean floors, glass, etc., and leave all perfect at completion.

Note.—Where work is shown on the drawings, but not described in the specification, it is to be carried out, and *vice versâ*. And all work that is reasonably to be inferred from both drawings and specification, though not particularly shown or described on either, that is necessary to make the building habitable and complete is to be included, and is to form part of the work for which the contractor is responsible.

Sanitary Work Where Required.

Sink.—Provide and fix in washhouse on tee-iron cantilevers built into wall a suitable cane in and out glazed stoneware sink, with glazed stoneware waste pipe carried through wall to discharge over gully outside.

Gulley.—Provide and bed on concrete base a 6-in. gulley of approved pattern, with cast-iron grid.

Drain.—Lay a 4-in. drain of good quality salt-glazed stoneware socketed pipes, properly joined in cement and laid on bed of concrete to a fall of 3 in. in 10 ft. from gully to cesspool, and make all necessary connections.

Cesspool.—Excavate for and build a cesspool, 4 ft. 6 in. diameter and 6 ft. deep, of 4½-in. brickwork in cement, with a domed top formed in brickwork and a 2½-in. stone cover, with iron ring bedded on same. Form bottom of cesspool with concrete 4 in. thick and render the sides and bottom 1 in. thick with cement and sand mixed 1 to 4.

A TOWN-PLANNING INSTITUTE.

A Town-Planning Institute has been formed with the object of "advancing the study of town planning and civic design, promoting the artistic and scientific development of towns and cities, and securing the association of those engaged or interested in the practice of town planning." The first Council consists of Professor Adshead, Messrs. H. V. Lanchester, P. T. Runton, and Raymond Unwin (architects); Messrs. J. A. Brodie, J. W. Cockrill, W. T. Lancashire, and H. E. Stilgoe (engineers); Messrs. Thomas Adams, G. L. Pepler, and W. R. Davidge (surveyors); and Messrs. J. S. Birkett and E. R. K. Abbott (Associate members). The Rt. Hon. John Burns, Sir J. Wolfe Barry, Sir Alex. R. Stenning, and Sir Aston Webb are to be asked to become Vice-Presidents. Among the hon. members are Lord Lytton, Lord Plymouth, Mr. Burns, Mr. J. W. Whitley, M.P., Mr. Ebenezer Howard, and Mr. H. Vivian.

MODERN FABLES.—No. IV.

JOHN THORPE was an architect—young and very much in earnest—who, while not neglecting to render the account for his fees when they fell due or refusing to accept payment for his services when tendered, yet, on the whole, felt more interest in securing credit and reputation from his work than in the monetary results which flowed (or dribbled) therefrom.

John Thorpe had a client who desired a dwelling-house built, and had heard that an architect was a serviceable intermediary between owner and builder—if you kept him in check and let him understand that you employ him to carry out *your* ideas.

John Thorpe's client, as is the wont of clients, expressed himself in this wise:—"Now, one thing I must have is good high rooms—about 13 ft. at least."

John Thorpe knew right well that a house costing £650, with stories 13 ft. high, was an artistic impossibility. He conceived it his duty to tell his client plainly that this was so, so his client left him and bought a house from a builder, whereof the rooms were but 9 ft. high.

Robert Smithson was also an architect—still young, though not so young as Thorpe. He also had a client (same sort), who also expressed himself in similar wise. Now, Smithson also knew right well that rooms 13 ft. high were, in the circumstances, an artistic impossibility, but he was crafty in his generation, and, saying nothing, yet proceeded with his sketch designs, making his rooms but 8 ft. high. In due course these designs were received by the client, who liked them pretty well, but as to the lowness thereof he was wroth, and descended upon the architect (and his wife also with him) to the intent that they jointly might upbraid him and obtain his promise of amendment.

But Smithson, being crafty and making no mention of artistic impossibilities, set forth reasons as follows:—

"You approve," said he, "of the size and disposition of the rooms. Consider now that with stories of the height I show the cubic contents of the house lie within the figure which you desire to expend. But be assured greater height means decreased size or increased cost. Take, therefore, thy choice, for a quart will not go into a pint pot."

Then his client was given pause, for with the size of the rooms he had been greatly pleased. Perceiving now his advantage, the architect next mentioned that stairs fewer by nine would be needed in the ascent from floor to floor. At this his client's wife perceived light which had hitherto been denied her. Following this the architect (a crafty man) spoke confusingly, and in a manner implying knowledge hid from the common herd, of warming and ventilation, how easy in low and how wasteful and difficult in high rooms, and all his reasoning and exposition was good and sound. And in the end his client agreed that the stories should be 8 ft. 6 in. (as Smithson had from the first intended), and that the cost might be enlarged by £50, and he departed satisfied, as also the client's wife.

Observe now that no mention of æsthetic motives did enter their discussion, yet was the æsthetic object achieved (and the house).

Moral.—Levers be of three classes. Apply thy power with whichsoever fulcrum will most readily move the weight thou hast to shift.

ARCHITECTURE AND THE STAGE.

THE musical extravaganza "Are You There?" now being produced at the Prince of Wales Theatre, is well worth seeing by those who enjoy brilliantly coloured scenic effects and beautiful costume. Of plot there is naturally little or none, of humour there is a good deal. The two acts represent a telephone exchange and the Tango Club, both in London, and the satirical comments of Percy Pellet, the manager of the exchange—a part very well filled by Mr. Lawrence Grossmith—evidently appealed to the house. Miss Sylvia Lester (Miss Shirley Kellog), a millionaire's daughter, seeks employment in the exchange in order to obtain secret information, and is not accepted till she proves to the manager that she is a past-mistress in the art of exasperating a subscriber. Gregory Lester (Billy Merson), disguised as a workman, is amusing and humorous from beginning to end, and among other members of an excellent cast may bementioned Antonio, the head waiter at the Casino (Eric Roper); Gordon Gray, an Under-Secretary of State (Alec Fraser); Miss Bing, the manageress of the exchange (Veronica Brady); and Mafalda Malatesta (Carmen Turia). The scenery was not good architecture, but afforded an excellent setting to a most amusing piece.

At the Queen's a play in three acts, by Inglis Allen, is produced, called "If We Had Only Known," dealing with the influence of children in the amelioration of married life. The play—a somewhat commonplace one—was admirably acted, though neither Robert Vale, the husband (a part taken by Mr. Malcolm Cherry), nor his wife Myra (Mary Jerrold) appealed to us. Both were wanting in a sense of humour, and perhaps for that reason were truer to life. The part of Dr. L'Estrange, who gives sage and commonplace advice, was excellently rendered by Mr. Rudge Harding, as was that of the only character in the piece who might have had experience of the world—Mrs. Vaughan Thompson (Miss Aimée de Burgh). Such pieces want both humour and realism if they are to be saved from dullness, and we did not feel the writer had quite done his part in this respect. The scenery represented a morning-room in Robert Vale House in Kensington, the panelling of which suggested the decorator rather than the architect and his studio.

It is difficult to know how to take Mr. Bernard Shaw's play at the Vaudeville—"Great Catherine"—or what to write about it. The story of the play, in four scenes, is soon told. An English officer seeks an audience of Catherine II. at her Court at St. Petersburg in order to give her an account of the American War; and after an interview with Prince Patiomkin, who pretends to be drunk, is carried, kicking, into the presence of the Empress and is thrown upon her bed. He interests Catherine, who, later on, sends for him, but being engaged to an English girl the officer runs away, only to be arrested subsequently and brought into the presence of the Empress, trussed like a fowl, and deposited at her feet, when Catherine amuses herself by prodding him with her toe until the appearance of his sweetheart, when he is allowed to be unstrapped and set free. The officer then gives the Empress some lengthy advice in a manner that would be altogether impossible were it not for the fact that while bound he addresses her in an equally frank and fearless way. Though amusing enough in its way, the play cannot be pronounced a success, although there are some diverting incidents. The first act of the play, wherein Mr. Norman McKinnel makes a good deal of the part of Prince Patiomkin, gives good promise of an interesting work, which, however, is not fulfilled in the subsequent acts, in spite of good acting—Miss Gertrude Kingston being particularly good as the Empress—and some entertaining conversation. The scenery, from the designs of Mr. Victor MacClure, is suitable and pleasing, of the period of 1776, and is no doubt accurate.

At the Coronet Theatre "Fanny's First Play," the most amusing of all Mr. Shaw's dramatic creations, is produced. It is so simple as to be understandable by the mere Philistine, unlike most of Mr. Shaw's plays. Fanny was admirably and charmingly personified by Miss Manora Thew, while Count O'Dowda was acted with insight and character by Mr. George Fitzgerald. The Robin Gilbey of Mr. Charles Stone and his wife (given by Miss Kate Bishop) were delightful, as were also Mr. and Mrs. Joseph Knox (Penelope Wheeler and W. S. Hartford). Perhaps the best member of a most excellent cast was Miss Elspeth Innes-Ker, who gave the part of Dora Delaney with inimitable verve and humour; but the Margaret Knox of Miss Constance Little and Mr. Cassels Cobb's Bobby were also admirable. We wonder how many are really influenced by a writer like Mr. Shaw, and should like to know what effect his writings have on the public, but, whatever estimate we may form of his motives and aims, he certainly must stand as the foremost modern writer of readable plays.

BUSINESS PREMISES, NEW BOND-STREET.

As soon as the demolitions, now proceeding under the care of Mr. B. Goodman, are completed business premises will be erected on the site of 134, New Bond-street, W. Messrs. Inman & Son, Bedford-row, W.C., are the architects, and the general contractors are Messrs. Killby & Gayford, Ltd., Worship-street, E.C.

ARCHITECTURAL SOCIETIES.

Leeds and Yorkshire Architectural Society.

The opening general meeting and smoking concert of this Society was held at the Queen's Hotel on the 20th inst.

The President, Mr. A. E. Kirk, A.R.I.B.A., occupied the chair, and after the reception proceedings commenced with his Presidential address, part of which is given on page 593.

Mr. G. F. Bowman proposed a vote of thanks to the President, and Mr. H. S. Chorley seconded.

Prizes were presented to the successful students in the Society's competitions as follows:—

President's prize of £5 5s. and silver medal for measured drawings awarded Mr. Norman A. Blackburn for drawings of Oakwell Hall, Yorks; a second prize of £2 2s. was awarded Mr. R. L. Palmer for drawings of Sherbourne Church, Yorks. In the Design Competition Mr. L. Foster was awarded the first prize of £3 3s., and Mr. Harold Beard second prize of £1 1s.

For sketching, Mr. L. A. Elsworth was awarded the Society's prize of £3 3s., and also the Sketching Club's prizes of £2 2s. for black-and-white sketches and detail studies.

Mr. Eric Ramsden secured the Halden prize, value £4 4s., for the best set of Testimonies of Study required by the R.I.B.A. for the Intermediate Examination.

Mr. C. B. Chadwick was awarded the prize of £3 3s. for the best set of notes and sketches prepared in the study of Architectural History for the R.I.B.A. Intermediate Examinations.

A concert, arranged by Mr. Douglas Bowman, occupied the remainder of the evening. The proceedings were brought to a close by a speech from Mr. T. Butler Wilson, who proposed a vote of thanks to the artistes, to which Mr. Bowman responded.

Northern Architectural Association: President's Address.

The opening meeting of the session of the Northern Architectural Association was held on the 19th inst. at 6, Higham-place, Newcastle. The President, Mr. W. Milburn, F.R.I.B.A., occupied the chair, and in the course of his address congratulated the members upon the vitality of the Association, which had now been in existence for fifty-five years, there being only one society in England started at an earlier date. He thanked the past Secretary of the Association, Mr. C. S. Errington, for his indefatigable labours on behalf of the Association during his long and valued term of office. The number of members had remained fairly steady since 1906, but the number of students had diminished during that period about 50 per cent. This latter fact was a matter for great regret, but it was, he thought, to be accounted for by architects not desiring to take pupils owing to the continued depression in the building trade, and not, he hoped, to the want of appreciation of art as a profession by the younger generation, for, whilst the facilities for obtaining a sound architectural training were never better in this country than at present, it was of little use in the majority of cases for a person to enter a profession without being able to see a prospect of making a reasonable living. It was gratifying to notice the number of these students who year by year presented themselves for the Institute examinations, and he congratulated all those who had passed during the last session, and he would urge all future students of architecture to pass the Institute Preliminary Examination, or the equivalent thereof, before entering an office, with a view to subsequently taking the higher examinations. The students' competitions of the past session had been very successful, and the work submitted of quite a high standard, and the work of the assessors must, he felt sure, have been no easy task. He was pleased to see that so many students inspected and studied the competition drawings lent to them by the Institute, and he would urge them to enter for the many competitions and studentships the Institute were enabled to offer every year. It was with pleasure that he had to inform them that the Association had received from the estate of their benefactor, the late Mr. Glover, a considerable sum of money, which would be invested in suitable securities, and from the income of which, he had no doubt, many a future architect would receive benefit and assistance in his education. He feared that he was a little optimistic when he said in his last address that he thought the

eve of better times had arrived in the building trade. That good times were coming he did not doubt, but they had not yet arrived.

Work in the towns in the North was not yet at all brisk, particularly in house-building, and how this was to be accounted for was a little difficult to say, for general trade was good, and yet the property market was not by any means what one might expect. They had been told quite recently in many of the papers that four-roomed cottages could be built for country labourers to meet the requirements of proposed legislation for £110 each, but he ventured to say that, judging from the published drawings of such cottages, there was not a District Council in this immediate neighbourhood which would allow them to be built, as they did not comply in many respects with the Local Government Board By-Laws, which were largely in force in this district.

In conclusion, he referred to the question of Registration, which was at the present time receiving the close attention of the Institute, and stated that, whatever the ultimate result of the deliberations might be, he trusted that the requirements of the provincial architect would be kept in view, and that the findings might be of lasting benefit to the profession.

Mr. F. W. Rich, F.R.I.B.A., on behalf of the members of the Association, presented to Mr. Charles S. Errington an antique Sheraton bureau as a token of their appreciation of his services as Hon. Secretary for several years.

Mr. Errington suitably acknowledged the gift.

Nottingham and Derby Architectural Society.

The first meeting of the Nottingham and Derby Architectural Society since their amalgamation was held in Nottingham on November 18, when Mr. E. R. Sutton, F.R.I.B.A., occupied the chair.

A business meeting having been held, the President, in the course of an address, expressed a hope that the amalgamation of the two societies would produce most beneficial results, and acknowledged the high honour conferred upon him by the members. Having alluded to the distinctions achieved by Nottingham architects, he mentioned the fact that Mr. Frederick Ball was the first architect who had aspired to wear the mayoral robes and chain of office of the city. Mr. Sutton observed that the continued depression in the staple industry of Nottingham had been vividly reflected in the building trade, and had affected most of them. He hoped, however, they would all have a busy time in the near future in designing schemes for the several competitions which would doubtless be promoted by the Corporation of Nottingham. These would include competitions for several free libraries which Mr. Carnegie was presenting to the city; for the Central Free Library and Museum, which, he presumed, were to be erected on the site adjoining the Guildhall premises, and the competition for the new Town Hall. Mr. Sutton advanced some useful suggestions for reducing the labour expended on competition drawings, and outlined the steps taken by the Royal Institute with regard to the subject of Registration.

The Council had appointed a very strong representative Town Planning Committee, who were looking after all schemes in their district. They had invited Professor Adshead, of Liverpool, to read a paper on "Town Planning," and the Mayor had kindly granted them the use of the Exchange Hall and promised to preside. A movement was in progress for the creation of a Ministry of the Fine Arts, and, so far as he could ascertain, the duties of the Minister would be to advise on all questions of art. What they needed in Nottingham was a pile of buildings worthy of the city, which would be monumental in character and include accommodation for the several administrative departments of the municipal and trading undertakings. Such a building would be a valuable asset, and Mr. Sutton hoped the City Council would not lack the necessary enterprise to take immediate steps to bring such an important project to a successful issue.

Mr. E. H. Heazell proposed, and it was heartily agreed to, that their best thanks be given Mr. Sutton for his interesting address and his kind hospitality.

Architectural Association of Ireland: Sanatoria.

An ordinary meeting of the Architectural Association of Ireland was held a few days ago at the Rooms, South Frederick-lane, Dublin, Professor W. A. Scott presiding.

The following were admitted members of the Association:—Messrs. Arthur Hill, F.R.I.B.A. (Cork); Noel E. Scott; William N. Spence; F. A. Stuart King; James Bruce; Harold Britton; L. H. Deane, Architect L.G.B.; James J. O'Donnell; and J. D. Foley.

Mr. W. Kaye-Parry, B.E., delivered a lecture on "Sanatoria," and he illustrated it by a number of photographs projected on a screen. Many of these had been lent by the Countess of Aberdeen. Starting with the selection of the site, which should always be on high ground sloping to the south, with, if possible, porous subsoil, and sheltered from cold winds and driving rain, Mr. Kaye-Parry went into details of the plans, from the central administration buildings to the pavilions, the size and aspect of the sleeping apartments for the various classes of patients, accommodation for the staff, water supply, drainage, isolation wards for observation of fresh cases, operating theatre and sterilising room, dispensary, open-air schools, chapels, lighting, etc. No detail of a well-equipped modern sanatoria was omitted. The lecture was highly instructive, and was followed by an excellent discussion, the subject being one which is arousing considerable interest in Ireland. Mr. P. J. Lynch, in proposing a vote of thanks to the lecturer, referred to the service Mr. Kaye-Parry had rendered the county generally by keeping the important question of sanitation prominently before the public and the profession. Mr. Dewhurst, A.R.I.B.A., seconded, and Count Plunkett and Messrs. G. F. Birkett, L. Giron, and F. Shaw supported, the resolution, which was passed with acclamation. Mr. Kaye-Parry, in reply, eulogised the Countess of Aberdeen for the generous manner in which she was endeavouring to improve the health and condition of the poor in the country.

COMPETITION NEWS.

It must be understood that the following paragraphs are printed as news, and not as advertisements; and that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

The list of current Competitions is printed on page 595.

Competition for New Secondary School, Bath.

The Council invite architects to submit designs for a Secondary School for boys and girls on a site in Upper Bristol-road, and have appointed Mr. Henry T. Hare, F.R.I.B.A., to act as their assessor. The author of the design placed first will be appointed architect; the author of the design placed second will receive a premium of fifty guineas.

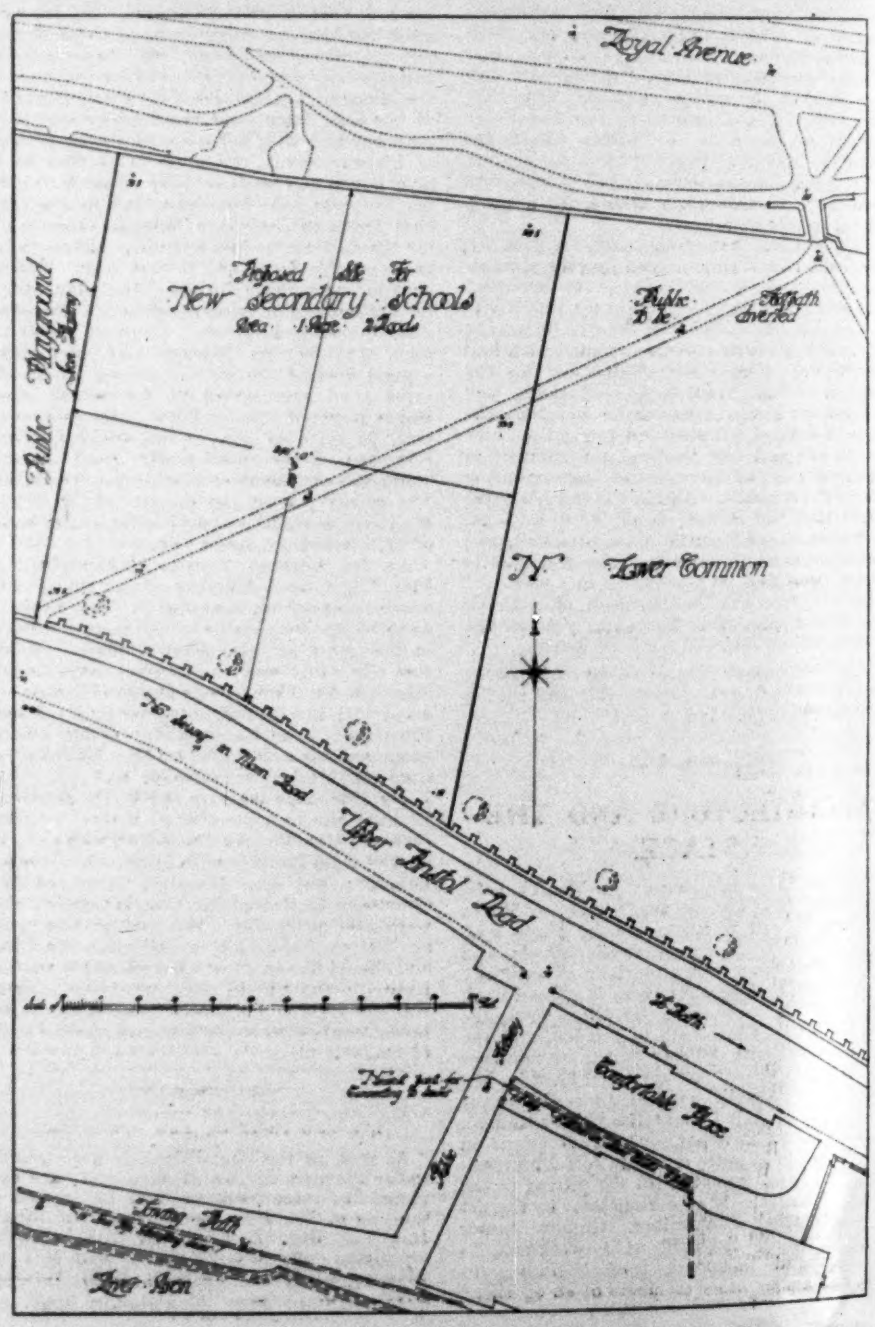
The designs must be prepared in accordance with the Regulations of the Board of Education for Secondary Schools.

Any questions which competitors may desire to ask must be addressed to the Town Clerk, and must reach him not later than December 15. A copy of the assessor's replies to these questions will be sent to each competitor as early as possible.

The designs are to be marked externally "New Secondary School, Bath," and are to be addressed to the Town Clerk and delivered carriage paid to him not later than January 31, 1914. No extension of time can be granted.

The school is to be a mixed one, providing accommodation for 250 children, except in regard to classrooms, and separate entrances, cloakrooms and lavatories should be provided.

It is desired that the elevations should be faced with stone, and that they should harmonise with the traditional architecture of the City, but all unnecessary elaboration should be avoided. Special importance will be attached to economy and convenience in planning. The



floors and staircases should be of fireproof construction.

Designs are to be accompanied by a short report giving particulars of finish and construction; also an estimate of the total cost of the building, with the cubic contents measured from the bottom of the footings to halfway up the roof. The estimate is to be inclusive of fittings, furniture, playgrounds, fencing, etc., but is to include heating, and wiring for electric light. Also the cubic contents of such portion as competitors estimate can be erected for a sum of £8,000.

All classrooms should be arranged so that they may face the sun at some portion of the day. West light for classrooms should be avoided as far as possible.

The following is the accommodation to be provided :—

(*a*) Four classrooms for thirty pupils.
(*b*) Three classrooms for twenty-five pupils.
(*c*) Two classrooms for twenty pupils.
(*d*) Assembly hall to seat 250 persons, and to be available for use as an artroom.
(*e*) Chemical laboratory for twenty-five, with store.
(*f*) Physics laboratory for twenty-five, with store.
(*g*) Domestic Economy room 700 ft. super., to serve also as a dining-room.
(*h*) Library about 400 ft. super., to serve also as a committee-room.
(*i*) Manual training room for twenty.
(*j*) Headmaster's room.
(*k*) Senior mistress's room.
(*l*) Assistant master's room.
(*m*) Assistant mistresses' room.
(*n*) Gymnasium about 1,250 ft. super. (This may be a detached building of simpler construction.)
(*o*) General store-room for books, stationery, etc.
(*p*) Two bicycle sheds for thirty each.
(*q*) Lavatory and cloakroom accommodation sufficient for 125 of each sex. The girls' cloakroom should be somewhat larger than the boys'.

Each design must be illustrated by the following drawings :—

(*a*) Block plan to a scale of 32 ft. to 1 in., the buildings to be distinguished by a red wash.
(*b*) A plan of each floor.*
(*c*) Elevations of the front and one end.*
(*d*) Sufficient sections to illustrate the design.*

London Hospital Essay Prize.

The College Board of the London Hospital offer a prize of the value of £120 for the best essay on "The Ventilation of Schools and Public Institutions." The essay, set under the will of the late Dr. John Liddle, is to be typewritten or printed, in English, and delivered at the London Hospital not later than May 31, 1914. The number and importance of original observations will be considered principal points of excellence. Full particulars may be obtained from the Dean, the London Hospital Medical College, Mile End, E.

Swimming-Baths, Hendon.

In continuation of the paragraph inserted in our issue of October 31 *re* the above, the Works Committee reported at the last meeting of the Urban District Council that they had given further consideration to the matter and recommended that in due course particulars of the proposed open competition for the swimming-bath be issued. They further recommended that competitors be required to deposit a sum of £2 2s. for the conditions of competition, block plan, etc., such deposit to be returned on receipt of a *bonâ-fide* design, or in the event of the applicant deciding not to compete application to be made for the return of the deposit within seven days; also that when the assessor has been nominated the surveyor see him in regard to the conditions of competition and endeavour, if possible, to submit the draft thereof at the next meeting of the Committee. In reply to a question the Town Clerk said that since the Committee met he had received a letter from the President of the Royal Institute of British Architects nominating Mr. H. W. Wills, F.R.I.B.A., of 3, Southampton-street, Bloomsbury, W.C., as the assessor in the competition. It was mentioned that the site of the proposed swimming-baths was at the rear of the Council offices. The recommendations were approved of.

* To a scale of 8 ft. to 1 in.

Plans for a Masonic Temple, Canada.

With reference to the notice on page 166 of the *Board of Trade Journal* of October 23 relative to a competition of plans for a masonic temple at Toronto, the Imperial Trade Correspondent at that city (Mr. F. W. Field) has now forwarded a circular containing answers to various points raised by competitors. Designs will be received up to January 20, 1914, by Mr. W. H. Best, 181, Avenue-road, Toronto, from whom further particulars may be obtained. The first premium will be the commission for designing and supervising the erection of the building. Three other premiums of $750, $500, and $250, respectively, will be awarded. The estimated cost of the bulding is to be about $250,000 (about £51,400). The conditions of the competition, together with the circular above referred to, may be seen by architects in the United Kingdom at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

CORRESPONDENCE.

Vaulted "Norman" Churches in England.

SIR,—*Winchester and Norwich.*—The subject of Professor Lethaby's article is one which deserves far more consideration than it has yet received. Professor Dehio was one of the first to emphasise the important contribution of the Norman Romanesque school to the solution of the problem which alone made possible the triumphs of the Gothic system. This contribution had hardly been recognised in England, because writers for the most part were content to look upon what they called "the Norman style" as an affair of the semicircular arch and certain characteristic details. But its recognition is important, not only in its bearing on the architectural history of Western Europe generally, but also because it is essential to a proper understanding of the history of the architecture of our own country.

A careful study of the surviving monuments shows clearly enough that the Norman builders were aiming at the high-vaulting of their churches, with clerestory lighting, almost from the time when a distinctively Norman school can be said to have been formed. The organisation of their supports and the disposition of their internal elevations points in this direction. The tall shaft on the internal face of wall and pier, which has been explained by some French archæologists as destined to support the tie-beam of the roof, means an arch in every other Romanesque school, and this must have been the origin of the *idea* in the Norman school, even though this original idea was often lost (especially in England), and the shaft then merely divided the bays. Its real motive is seen in the choirs of Saint-Nicolas, Caen, and Saint-Georges-de-Boscherville, where a shaft on the back of the pier receives the doubleau of the aisle vault, and the precisely similar shaft on the face of the pier and wall receives the doubleau of the high vault. So in the transept of Winchester I agree with Professor Lethaby that the organisation of the pillars has its origin in the idea of a high vault, though, as was so often the case, the idea was dropped when the clerestory stage was reached, when, too, the fine idea of towers flanking the transept gables was also abandoned.

The early attempts to abut the thrusts of the high vault are also important in this connection. The original arrangement of the clerestory stage of the nave of Saint-Étienne, Caen, can only be explained by the intention to build groined vaults over the double bays, which, however, were never executed, and the half-barrel vaults over the triforium story were built to abut the thrust of the intended high vaults. Professor Lethaby recognises (pp. 337-8) that the later half-barrel vaults over the choir triforium of Gloucester were built for the same purpose. The abutting arches above a triforium story improved on this idea, by providing abutment where the vault thrusts were concentrated. Such arches over the triforium stories at Durham (choir, transept, and nave) and at La Trinité, Caen, provide abutment either for the existing original vaults or for the original vaults which are known to have existed. It seems to me to be certain that the abutting arches so systematically employed at Norwich can have had no other function, even though the intention to vault was abandoned when the clerestory stage was reached. In these early attempts we have to take into account not only the Norman structural logic, but also the Englishman's imperfect assimilation of that spirit and tendency to compromise, as well as possibly diminished resources. Ruprich-Robert thought that the arrangement of the shafts in the piers of Norwich nave indicated an intention to build sexpartite vaults over the main span, and it is certainly difficult to explain these shafts in any other way. They actually receive the outer order of the triforium arch, which is not concentric with the inner order, and this obviously represents a change of motive (Britton's "Norwich," pl. 5). Precisely the same thing was done in the easternmost bay of the nave of Durham, when the intention to build a high vault was temporarily abandoned (see Billings's "Durham Cathedral," pl. 11).

Style-Names.—Professor Lethaby's last letter explains his position so moderately and reasonably that I am anxious to reply in the same spirit. If I express my view strongly it is because I cannot regard the question as a purely "nominal" matter. It seems to me that the real question is how the history of our architecture is to be most efficiently taught, and I venture to think that this cannot be done by evoking images instead of studying facts, especially when the images are misleading and a hindrance to a right understanding of the facts. I objected that Professor Lethaby's analogy of the word "child" was not to the point, because I have not objected to all period-names, even in the life of architecture. What I do protest against is a continuance of this apparatus of nineteenth-century classification of our English mediæval architecture into arbitrary periods of time designated by more or less inappropriate names. And in this protest I propose to confine myself to what I conceive to be the two really important questions, which indeed are but one:—(1) Is this classification of any real advantage to sound teaching of the history of our mediæval architecture? And (2) should we lose anything by dropping it altogether?

(1) In considering the question whether this classification has any real advantage it is well to recall the conditions under which it arose. It was invented when the study of the history of mediæval architecture was in its infancy. It is only necessary to re-read the introductory remarks in Rickman to realise how far the study has advanced since then, especially if we have just read Professor Lethaby's "Architecture." The "Norman style" was traced in sections on "Norman doors, windows, arches," etc., but of "Norman" structure and its development not a word. This vicious manner of regarding architecture merely as an affair of decorative detail, which has characterised so much tall writing about Gothic architecture, is reflected in the "period" classification, which encourages it, and no more powerful protest against this superficial view of architecture has been published than Professor Lethaby's "Architecture." He acknowledges that the "period" terms are not very satisfactory, but he thinks it is convenient to be able to say, "I saw a big Norman church at the end of the village." In nine cases out of ten in England the description would be inaccurate, for most churches of the "Norman" period have *grown* in later times, and, if used in Normandy, it would be simply meaningless; but he can just as easily say, "I saw a big twelfth-century church at the end of the village." In his previous letter he said that the term "Norman" is as exact as my "century or so following the Norman Conquest" for the period which his article covered. Is it? Let us see. Rickman's "Norman" period is 1066-1189; Sharpe's, 1066-1145; Professor Lethaby's, either the twelfth century ("Architecture," p. 218) or 1050-1150 (*ibid*, p. 220). If we turn to the New English Dictionary for a definition of the adjective "Norman" we find (1) its proper and natural sense, and (4) "the distinguishing epithet of a form of architecture, *or its details*, developed by the Normans and employed in England after the Conquest." The words which I have italicised are significant. And why should we be debarred from using "Norman" in its first and natural sense (as I have used it in the first part of this letter without inverted commas) unless we add a note to explain (as I have been obliged to do before this) that we are using the term in its proper sense, and not as a nickname for a "period"? But when did English architecture cease to be "Norman"? Sharpe's criterion of the "Transition" was the simultaneous use of semicircular and pointed arches,

which is precise enough in its way, but it substitutes a quite secondary characteristic for the prime factors in the development. Professor Lethaby says the choir of Canterbury is Gothic. What are Ripon and Roche? And why should Oxford come under the head of "Norman"? (p. 338 *ante*). Sharpe's classification of Lancet, Geometrical, Curvilinear, and Rectilinear may be suitable enough for window forms, but is quite unsuitable when applied to the architecture generally, even to other details, for the changes in the character of mouldings and foliage-sculpture, for example, did not synchronise with the changes in window forms. Yet we hear of "Geometrical" mouldings and "Perpendicular" transoms. Surely it is obvious enough that all this nomenclature, and "periods" with limits as to which there is no agreement can only lead to confusion, and is a hindrance to any sound instruction in the vital facts of architectural development. We may well exclaim with Mr. Millard, "What is there about our own mediæval architecture in particular that calls for a Zodiac of Periods to explain it, whilst the author (Professor Lethaby) can treat us to the brilliant sketch . . . entitled 'French Gothic,' as well as to illuminating chapters on other schools of architecture, without needing to introduce anything more than a simple anchorage in the centuries with actual dates of the work when available?" (*Journal* R.I.B.A., XX., 312).

(2) Should we lose anything by dropping this "period" nomenclature altogether? Professor Lethaby says that if the small names are to go the bigger names must go too. That is not necessary. The names must stand or fall on their merits. "Romanesque," "Gothic," and "Renaissance" are convenient labels which are currently used by writers of all countries, but no serious person attempts to limit them within precise dates. Professor Lethaby says that there is nothing to restrain us from speaking of early, mature, and late Gothic. I agree so long as we do not dignify the adjectives "early," "mature," and "late" by beginning them with capital letters, and so long as we do not assign to them rigidly-defined dates, for no one who has learnt his history of architecture from Professor Lethaby is likely to set up a certain type of traceried window as the criterion of mature Gothic. In this connection I may quote a wise remark of another of my French friends, M. Georges Durand, the author of the magnificent monograph on Amiens Cathedral, in his recently published "Églises romanes des Vosges" (p. vii):—"Il ne faut donc considérer les mots *roman, gothique*, et autres du même genre—*qui doivent être aussi peu nombreux que possible*—que comme des termes commodes pour caractériser deux manières d'être de l'art, qui se sentent plus qu'elles ne se définissent et dont les contours ne peuvent être qu'indécis." The names should be as few as possible—that is, I think, the sound view—and in advocating it the present French practice is very much to the point. The French began their study of the history of mediæval architecture a little later than we did, and their earlier writers, like ours, invented a series of "period-names"—roman primitif, roman secondaire, transition, ogival primitif, secondaire, tertiaire—but these names have now been entirely dropped as misleading, confusing, and unnecessary; so much so that if one finds them in a modern French book one may at once put it aside as mediocre at least. Professor Lethaby thinks that what M. Lefèvre-Pontalis has written recently on the term "Transition" shows "the confusion which comes from giving up some traditional names and retaining others." I have had the good fortune to listen to many of M. Lefèvre-Pontalis's descriptions of churches, large and small, and they are certainly not lacking in precision, and the absence of "period-names" involves no confusion. That the dropping of these names has been an advantage is proved by the fact (and I can vouch for it as a fact) that the numerous pupils who have attended his course of fifty or more lectures on mediæval architecture at the École des Chartes are better equipped than the corresponding class in England—I speak here, not of the expert, but of the instructed amateur—and I believe that, in an examination on the development of Gothic structure, most of them would beat easily our students who have been brought up on "period-names." My own small experience in lecturing to amateurs and examining students has proved to me that not only is there no advantage in retaining the names, but that there is a real gain in dropping them. And what I am advocating is happily nothing new in the best English practice. The writers of the architectural descriptions in the "Victoria County History" and in the "Inventories of Historical Monuments" do not use these names, and they are setting an excellent example which our teachers in the architectural schools cannot do better than follow. No one who studies Mr. C. R. Peers's admirable description of Peterborough Cathedral in the "Victoria County History" (one of the best things of its kind which has been written since Willis) could think that his analysis of the western parts of the church would have been improved by bespattering it with "Late Norman," "Transition," and early "Early-English."

I know that my friend Professor Lethaby will not construe anything that I have written as a personal attack on his views. All of us of his generation were brought up on these period-names; many of us have found them to be a nuisance, and have dropped them, and I imagine that Professor Lethaby himself, judging from his last letter, is not so very far from agreeing with us. The opinions of an ordinary person on this subject would perhaps be hardly worth contesting, but we have come to look to Professor Lethaby for illumination, inspiration, and sound scholarship. It is not a question of what he personally may be "allowed" to do, but of the effect of his influence on others, and we do not like to think of him as using pseudo-scientific terms "in a loose way."

JOHN BILSON.

Birmingham Blue Coat School Competition.

SIR,—I enclose you copy of a letter sent to the Secretary (Mr. W. E. Bolton), lodging a formal protest against the award made in this competition.

The Secretary replies that a copy of my letter "has been sent to the assessor (Mr. Hunt) and to the Hon. Consulting Architect (Mr. Bateman), who have been asked to report to the Committee in reference to it."

It is to be hoped that they will examine the designs again and "determine whether they conform to the conditions, and to exclude any which do not," in accordance with their duties.

To comply with the conditions in this competition—which, by the way, were so excellently thought out, as far as the convenience of the Institution was concerned—was most arduous and most difficult, and entailed a very great deal of planning and scheming, yet the winning design selected in the final competition is one which largely ignores them.

This seems to me a most peculiar thing for the assessors to have done.

One is left to presume that the winning design will be considerably altered before it is carried into execution and brought into a line with modern requirements and consequently in accordance with the other premiated designs (which, by the way, remain the property of the promoters).

For the protection of competitors I beg to suggest that, where assessors choose a design in violation of their own conditions, that, on an appeal being made, they should be answerable for the justice of their awards to the Competitions Committee; or would it not be possible to so frame the preliminary conditions to form a contract as between the promoters and the competitors, so that any award given in contravention of the conditions could, if necessary, be legally upset?

Efforts in the past to obtain legal redress have been put out of court, I understand, solely on account of the way the conditions have been framed, so that it would appear that architects have only themselves to blame for not putting their house in order.

It is a matter of such great importance and, unfortunately, so often crops up, especially in local competitions, that no efforts should be spared to put both parties to the competition on a businesslike footing.

MARCUS O. TYPE, A.R.I.B.A.

Copy of letter sent to Mr. W. E. Bolton:—

November 15, 1913.

SIR,—I wish to place on record my protest against the assessor's award in the recent competition for the new Blue Coat School.

I have purposely refrained from making this protest before, lest it should be thought my views on the matter were prejudiced.

Now, however, public opinion has been ventilated, and your attention, doubtless, has been drawn to the adverse criticisms appearing in this week's *Builder* and the *Builder's Journal* on the design placed first in the competition.

I could add still further to these criticisms and enumerate many other instances where the design in question violates the conditions, but I think sufficient has been said to show the misdirection of the award, and it is inconceivable that the Governors will be a party to any such misdirection and consequent injustice now that the matter has been brought to their notice.

The first of the conditions states that it is the Governors' intention to follow the assessor's advice, "unless there is some grave reason to the contrary."

Very grave reasons are now urged why the assessor's advice should not be followed, and for the sake of common fairness I beg to apply that the matter be reconsidered.—Yours truly,

(Signed) MARCUS O. TYPE.

SIR,—We consider that the thanks of the architectural profession are due to you for the able and exhaustive criticism which appeared in your issue of the *Builder* for November 14 with regard to the unsatisfactory way in which this competition has been conducted.

We thoroughly endorse the whole of the facts laid before your readers, and it gives us the greatest satisfaction to find that the leading professional journal should devote so much of its valuable space in dealing with such a palpable injustice which has been inflicted upon the other competitors.

We have protested against the award on the grounds that the selected design is not in accordance with what we consider to be the fundamental conditions of the competition, and we enclose some correspondence which has already taken place between the Secretary to the Governors and ourselves, which you are at liberty to publish. GARRATT & SIMISTER.*

The following is the correspondence referred to:—

Copy of letter sent to the Secretary after exhibition of the drawings:—

W. E. BOLTON, ESQ., Secretary. November 6.
Blue Coat School, Birmingham.

BLUE COAT SCHOOL.
Final Competition.

DEAR SIR,—We have to-day had the opportunity of examining the selected design for the new Blue Coat School, to which award we regret to record a protest.

Certain conditions were prepared by the Governors and their advisers for the guidance of the competitors in preparing their designs, which are binding to all parties, and constitute an agreement between the promoters and the competing architects. These conditions contain many clauses which are most definite and not in the least ambiguous.

To put the matter as briefly as possible, one clause states that all the dormitories *shall have external* windows on *both* sides.

In the selected design six out of the nine dormitories have external windows on one side only, with borrowed lights on the other side into a corridor. This, we maintain, is a distinct violation of the above condition, and should in itself have been a disqualification.

Questions were asked by the various competitors, which were answered, and a copy of these was circulated to each of them.

One of these queries asked to which road the Governors desired the principal front, and the reply was most definitely given as *Somerset-road*.

In the selected design the principal front is placed at right angles to Somerset-road, while the playsheds and latrines, etc., are placed on the road front.

Coals and supplies, it was stated, should be got in readily from the road; in the selected design a macadam road will require making and maintaining for heavy traffic across the front of the building to the engineering block.

We maintain that the before-mentioned conditions, together with the number of stories having been fixed (by the Governors and their advisers), that these were the governing factors in the planning of the building, and that the selection of a design which absolutely ignores them is a grave injustice to the other competitors.

Probably the Governors are not fully aware of these conditions in detail, or possibly they have not been given the consideration they deserve, and we feel sure that after these particular facts have been brought to their notice that the governing body of such an important institution will not allow this matter to proceed further without giving the whole details and conditions supplied to the architects the closest investigation and see that justice is done.

There are numerous other details to which the selected design does not agree with the conditions supplied, and we should be glad if you would be good enough to afford us the opportunity of meeting you and any members of the Committee and of personally explaining our objections in detail.

We shall be glad to have a reply at your earliest convenience.

Yours faithfully,
GARRATT & SIMISTER.

P.S.—We send per bearer the *Kalendar* of the Royal Institute of British Architects, giving the regulations to be observed in the conducting and adjudicating of architectural competitions.

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* We should like to explain that a slight error occurred in our criticism of November 14 in which we quote the estimate of Messrs. Garratt & Simister as being £54,000; this should have been £51,000.

The Secretary's reply:—

Blue Coat School, Birmingham.
November 18, 1913.

Messrs. GARRATT & SIMISTER,
Congreve-street.

DEAR SIRS,—In further reply to your letter of the 6th inst., I am requested to say that my Committee do not see that any good purpose will be served by the personal interview you suggest, as they held several meetings with the assessors prior to the issue of the award, fully considering and weighing the various points of each of the three designs in detail, and unanimously approved of the selection made by their advisers.

I send you a copy of a reply received from Mr. Hunt and Mr. Bateman as to your letter, to whom it has been submitted.

The Committee desire me to acknowledge the very courteous manner in which your application is made, and the great care and pains which you have evidently taken in preparing your design, and they fully realise it must be a great disappointment to you that your design cannot be carried out, quite apart from any question of financial advantage.

I return the *Kalendar* of the R.I.B.A. you kindly sent me.

I am, yours faithfully,
(Signed) W. E. BOLTON,
Secretary, etc.

3, Raymond-buildings, Gray's Inn, W.C.
November 12, 1913.

W. E. BOLTON, ESQ.,
Secretary,
Blue Coat School, Birmingham.

Blue Coat School Competition.

DEAR SIR,—After giving very careful consideration to Messrs. Garratt & Simister's letter, a copy of which I received from you yesterday, I do not see any reason for departing from my award.

The whole matter has been so thoroughly and exhaustively gone into, including the points raised, and settled at the several meetings I have attended, I cannot alter my decision.

The award having been unanimously accepted by the Institution Committee and approved by the Governors, I most strongly advise against any attempt to interfere therewith.

I am, yours faithfully,
(Signed) G. H. HUNT, F.R.I.B.A.

I fully endorse Mr. Hunt's award and decision.

Yours truly,
(Signed) C. E. BATEMAN.

Restoration Work at Wells Cathedral.

SIR,—On paying a visit to Wells Cathedral recently I was surprised to see some very drastic work going on in the undercroft of the Chapter House. This interesting crypt seems to have been very badly neglected and to have been allowed to deteriorate in many ways. The columns and their caps were somewhat perished, the walls were in similar condition, and the whole place certainly needed attention. But I should like to ask whether it was really necessary to scrape the old stonework to the bone, and to add so much new work? The place is rapidly assuming the appearance of a new structure.

What with the new masonry that is being put in, in consequence of the installation of heating apparatus, and this severe restoration work, the artistic continuity of much of the structure at the south-east corner of the Cathedral is being completely destroyed.

THOMAS L. TUDOR.

Unsatisfactory Architectural Competitions.

SIR,—In this connection your correspondent, "F.R.I.B.A.," in your last issue, advocates Registration, but if we only get "chartered architects" he would then have to exercise more discretion in his application of the term "unqualified" to individuals who elect to remain outside that pale than he shows at present in applying it to such persons in bulk.

We already have "chartered accountants" and "chartered surveyors." Are the many outside these bodies, who also carry on these professions, necessarily unqualified or disqualified to do so, and will your correspondent venture to so describe any one of them by name? I think not.

If the statutory Registration of architects is desirable in principle, as most of us consider it to be, let us have it. It is the only effective means, in my opinion, of controlling the profession or protecting the interests of the art and of the community. Anything short of statutory Registration will not attain the object your correspondent has in view.

C. MCARTHUR BUTLER
(Secretary, Society of Architects).

The Statutory Registration of Architects.

SIR,—For nearly thirty years the Society of Architects have promulgated and pioneered a movement for the statutory Registration of architects, and have from time to time promoted a Bill in Parliament, on lines which provide for the protection of all present vested interests, for the attainment of that object.

For the past two years or so the Society have temporarily suspended their activities in this direction for reasons which, I think, have been generally appreciated, but in view of recent developments they have decided to take immediate further action.

The Society's draft Registration Bill, which has been in the meantime revised and brought up to date, has been placed in the hands of an eminent counsel for completion, and all arrangements made for again introducing the Bill into Parliament at the first opportunity.

The Society invite the support of all architects who favour the principle of statutory Registration.

G. E. BOND
(Chairman of the Registration Committee of the Society of Architects).

Registration of Architects in New Zealand.

SIR,—With further reference to my letter of September 1, I have this morning received a cable from the New Zealand Institute of Architects to the effect that the Registration Bill has passed. The brief history of its Parliamentary progress is that just a year ago it was introduced into the House by the Hon. Mr. Herdman, the Attorney-General, and was read a first time. It passed the second reading in July, and was referred to a Special Committee of the House, and it has now become law.

C. MCARTHUR BUTLER
(Secretary, Society of Architects).

King Edward VII. Welsh National Memorial Competition.

SIR,—In reply to your correspondent, Mr. T. R. Peters, as the author of the design placed second I may state that upon the return of my drawings from the promoters of this competition the same shall be forwarded for publication, with particulars of estimated cost.

L. WILLOUGHBY THOMAS.

The Late Mr. Willett.

SIR,—In your obituary notice of the late Mr. Wm. Willett you make it appear that one of his largest undertakings was the laying-out of Fitzjohn's-avenue. While appreciating the excellent works carried out by Mr. Willett we should like to point out that the avenue and adjacent roads on the Maryon Wilson Estate were laid out by the surveyors, Messrs. Farebrother, Ellis, Clark, & Co., and practically the whole of the freehold was purchased and the building development carried out by ourselves, the first residence being completed in the year 1877.

H. & E. KELLY.

[*** A letter entitled "'London Unique': Southwark Bridge" is held over until next week.—ED.]

GENERAL NEWS.

Professional Announcement.

Mr. George A. Lansdown, F.R.I.B.A., of No. 9, Regent-street, Waterloo-place, S.W., has admitted into partnership Mr. William E. A. Brown, A.R.I.B.A., M.C.I., who has been with him for the past twenty-one years. The practice will in future be carried on under the title of Messrs. George Lansdown & Brown at the above address.

Appointments.

The Birmingham Town Planning Committee have appointed Mr. F. O. C. Nash, late Assistant to the City Engineer of Newcastle, to the position of Chief Assistant to the Birmingham City Engineer in the Town Planning Department.

Mr. H. T. Chapman, late County Surveyor for Somerset, has been appointed County Surveyor of Kent.

Mr. J. H. Marshall, civil engineer, Fochabers, has been given the appointment as head architect to the Duke of Richmond and Gordon.

London School of Architecture.

The Senate of the University of London has been enabled to carry out the scheme for the combination of the Architectural Schools of University and King's Colleges, and henceforward the combined schools will be carried on in the new building at University College. More than one hundred students can be accommodated. For ordinary and advanced students there are three large studios, well lighted and fitted with specially-designed working benches. The museum and the library are on the first floor, while the lecture theatre is on the ground floor. There are private rooms for professors and lecturers, a diagram-room, dark-room, and additional rooms, which can be utilised as required, some of them for a town-planning department. The collections of books, models, samples of materials, casts, and appliances possessed by the two schools are being largely increased.

The Royal Institute of British Architects: Board of Architectural Education.

The Board of Architectural Education of the Royal Institute of British Architects announce that the designs submitted by the following students who are qualifying for the Final Examination have been approved:—*Subject XI.* (a).—"Design for a County Club."—Messrs. C. W. Craske, W. R. Davison, V. Dyson, H. N. Jepson, P. J. Adams, H. Andrew, W. Alison, J. S. Fyfe, A. Nisbet, J. M. Brown, J. A Clarke, S. W. Ackroyd, G. A. Rose, H. T Cooksey, H. M. Whitehead. *Subject XI.* (b).—"Design for a Clock Tower."—Messrs. A. E. Maxwell, G. W. Callender, A. S. Burnett, N. S. Robinson, A. Silcock, T. T. Jenkins, C. C. Cheek, A. W. Robertson (jun.), A. R. Shibley, G. M. Eaton, A. J. Wood, E. B. Musmann, W. E. W. Terrell, W. B. Binnie, A. F. Hooper R. S. Wallace, R. H. Philp, F. Jenkins, F. A. Addey, A. A. Foote, A. P. Stoner, E. B. Norris, H. S. Triscott, F. H. Glazebrook, E. R. F. Cole.

Church Building Society.

The Incorporated Society for Promoting the Enlargement, Building, and Repairing of Churches and Chapels held its usual monthly meeting on the 20th inst., at the Society's house, 7, Dean's-yard, Westminster Abbey, S.W., Lieut.-Colonel the Hon. G. H. W. Windsor-Clive in the chair. Grants of money were made in aid of the following objects, viz.:—Building new churches at Ilford, St. Margaret, Essex, £150; Penygraig, St. Barnabas, Glam., £120; Sudden, St. Aidan, Rochdale, £175; West Hartlepool, St. Luke, £130; and Siddal, St. Mark, near Halifax, £175; and towards enlarging or otherwise improving the accommodation in the churches at Abbots Morton, St. Peter, near Worcester, £25; Bruntcliffe, St. Andrew, Abercowin, St. Michael, Carms., £70; Northampton, Christchurch, £75; making in all, £275. St. Teath, Cornwall, £25; Waddingworth, St. Margaret, Lincs., £25; and West Tisted, St. Mary Magdalene, Hants, £25. Grants were also made from the Special Mission Buildings Fund towards building mission churches at Dunsdale, St. Oswald, Yorks, £15; Larklands (Ilkeston), Derbyshire, £40; and Ogmore Vale, St. John-the-Baptist, Glam., £50. The following grants were also paid for works completed:—Little Steeping, St. Andrew, Lincs., £40; Llanfihangel-uwch-Gwili, St. Michael, Carms., £30; Hurst-green, St. John, Surrey, £100; Watford, St. James, £115; Chobham, Holy Trinity, £5; Weymouth, St. Paul, £50 (being a balance of a grant of £225); Belfield, St. Ann, Rochdale, £100; Zeal Monachorum, St. Peter, Devon, £20; South Norton, St. Michael and All Angels, Durham, £100; Ferry Hinksey, St. Laurence, near Oxford, £25; New Ferry, St. Mark, Cheshire, £100; Milton, St. James, Portsmouth, £180; Harescombe, St. John, Gloucester, £20; Old-street, St. Mark, London, £50; Borth-y-Gest, St. Cyngar, Carnarvonshire, £50; Bungalow Town, (Shoreham), Sussex, £25; West Humberstone, St. Barnabas, Leicester, £40; Greenwich, St. Peter, £30; Crofton, St. Paul (Orpington), £15; Stanley Common, All Saints, Derby, £40; Mold, St. Mary, £175; Huntingdon-road, St. Andrew, near York, £20; and Waverley Park, St. Silas, Surrey, £100 (being balance of a grant of £1,000). In addition to this, the sum of £583 was also paid towards the repairs of twenty-seven churches from Trust Funds held by the Society. The Society likewise accepted a sum of money as a Repair Fund for the churches at Aldfield (St. Lawrence) and Studley (St. Mary), Yorks.

English Church Architecture.

The Oxford University Press will publish within a few days a work on English Church Architecture by Mr. Francis Bond, author of "Gothic Architecture in England," "Screens and Galleries," "Fonts," etc. To enable a large scale of illustration to be adopted it will be brought out in two volumes, demy quarto. The illustrations, altogether over 1,400, are reproductions of photographs, sketches, plans, sections, and measured drawings of medieval churches.

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ILLUSTRATIONS.

French Architectural Sculpture and Modelling.

WE devote most of our plates this week to illustrations of some of the excellent French and other architectural sculpture and modelling now being carried out, as the subject is of great interest.

The foyer of the theatre at Nancy is an extremely fine example of the application of modelled decoration. A model of the staircase treatment and one of the boxes of the theatre are also given. The other illustrations need no description, but are especially good instances of that reserve of expression which is particularly desirable in the sculptural adjuncts of buildings.

The Hôtel Bourgthérould e.

THIS illustration is given in connection with an article which appears on p. 570, where other illustrations will be found.

Théâtre Nancy.

MEETINGS.

FRIDAY, NOVEMBER 28.

University of Manchester.—Professor Beresford Pite on "English Mediæval Architecture"—IV. 7 p.m.

MONDAY, DECEMBER 1.

The Royal Institute of British Architects.—Business meeting. 8 p.m.

Society of Engineers.—Mr. E. K. Rideal on "The Corrosion and Rusting of Iron." 7.30 p.m.

Chadwick Public Lectures (at the Institution of Civil Engineers).—Mr. W. A. Willis on "House Drainage Law"—III. 8.15 p.m.

University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "French Renaissance (and Modern) Architecture." 5 p.m.

Royal Society of Arts.—Mr. E. G. Coker on "The Measurement of Stresses in Materials and Structures." 8 p.m.

TUESDAY, DECEMBER 2.

The London Society (at the Royal United Services Institution).—Commander Dixon, R.N., on "The Wastes; The Wants of London." 8 p.m.

University of London (British Museum).—Mr. Kaines Smith on "Greek Art and National Life." 4.30 p.m.

The Institution of Civil Engineers.—Mr. B. H. Henderson on "The Transandine Railway." 8 p.m.

WEDNESDAY, DECEMBER 3.

Northern Architectural Association.—Students' meeting. 7.30 p.m.

The Royal Archæological Institute.—Mr. F. E. Howard on "Mediæval Roofs." 4.30 p.m.

THURSDAY, DECEMBER 4.

Institution of Electrical Engineers.—Dr. G. Klingenberg on "Electricity Supply in Large Cities." 8 p.m.

Society of Antiquaries.—8.30 p.m.

University of London (British Museum).—Mr. Banister Fletcher on "Greek Architecture." 4.30 p.m.

University of London (Victoria and Albert Museum).—Mr. Kaines Smith on "Beauty and Religion." 3.30 p.m.

FRIDAY, DECEMBER 5.

Edinburgh Architectural Association.—Mr. Lawrence Weaver on "Gardens." 8 p.m.

University of Manchester.—Professor Beresford Pite on "English Mediæval Architecture." 7 p.m.

Architectural Craftsmen's Society, Glasgow.—Professor C. Gourlay on "The Great Church of Santa Sophia, Constantinople." 7.45 p.m.

The Institution of Civil Engineers.—Students' meeting. Mr. H. V. Hutt on "The Liverpool-street Extension of the Central London Railway." 8 p.m.

FLATS, KNIGHTSBRIDGE, S.W.

Mr. Paul Hoffmann, Capel House, New Broad-street, is the architect for the block of flats in course of erection in Basil-street, Sloane-street, S.W. The general contractor is Mr. F. L. Linzell, King's-road, Chelsea.

The "Morning Post" Offices, London.

FIFTY YEARS AGO.

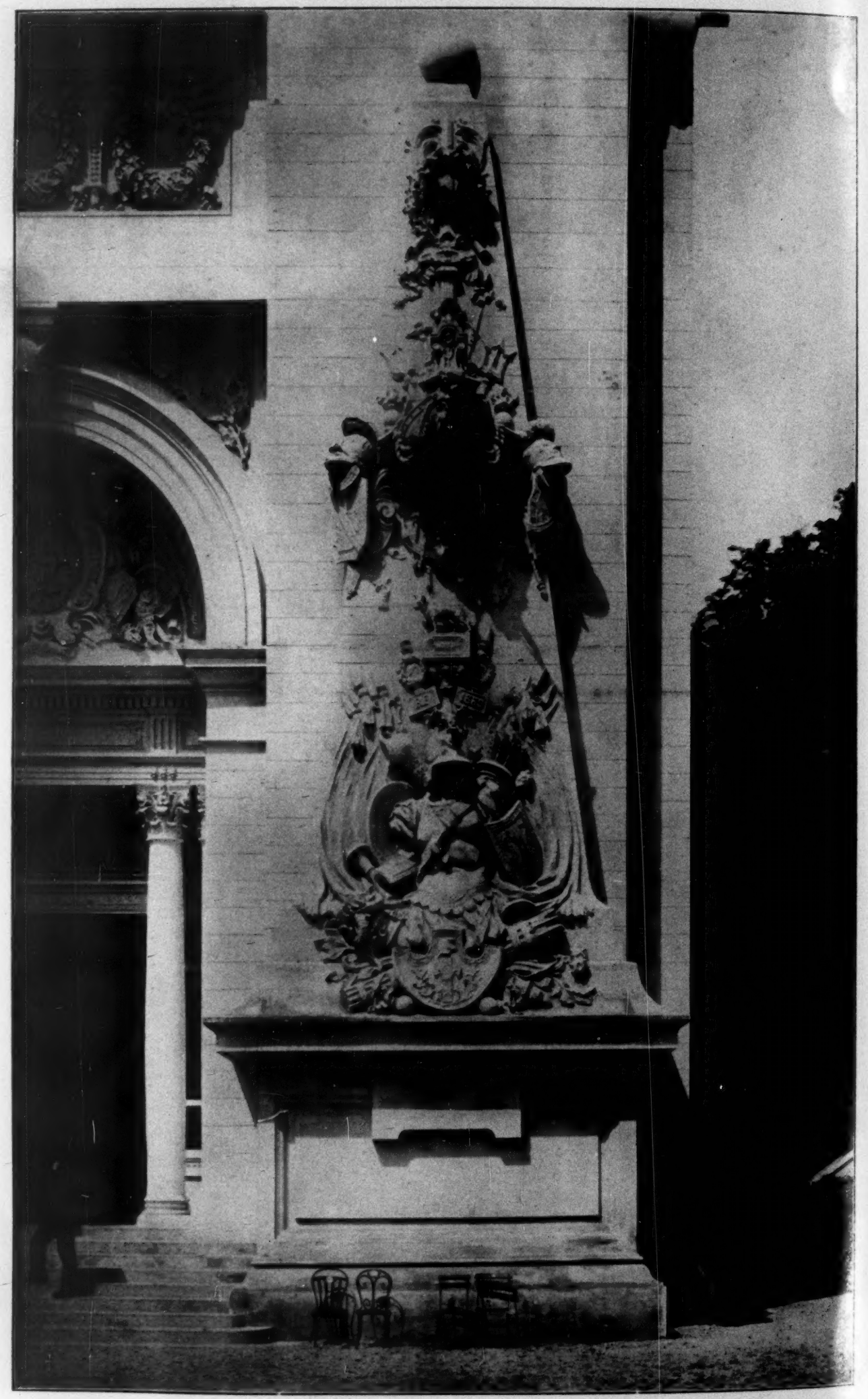
FROM a leading article in the *Builder* of November 28, 1863 :—

A large proportion of the churches in Venice are disappointing, noticeable rather for costliness than beauty. The Church of the Jesuits, for example, is the most remarkable exhibition of marble work that can be found. The walls and columns are of white marble, inlaid with verd-antique, to represent a sort of tapestry—a sad misapplication of money and skill. There is marble drapery to the pulpit, and on the steps of the high altar is an imitation carpet! "Marble-ous!" was the exclamation. The Church of Gli Scalzi is another example of this "marble-ous" style, wonderful for its richness. Columns, statues, inlaid work, and costly pavements abound, the contributions of various families. The chapel of Sebastian Venere is one of the finest in it. Every inch is covered with marble; even the doors are faced with mosaic work, and bronze decorations and gilding are lavishly employed.

*** We change with the times in spite of our advanced age, and do not make puns in our leading articles.—ED.

NEW SCIENCE MUSEUM AT SOUTH KENSINGTON.

H.M. Office of Works recently put out to competition a large building for the new Science Museum at South Kensington. The principal portion of the structure—foundations, pillars, and floors—is to be in reinforced concrete. We are informed that the contract has been secured by Messrs. Leslie & Co., Ltd., of Kensington-square, London, licensees of the Coignet system, on a scheme prepared by Messrs. Edmond Coignet, Ltd., of 20, Victoria-street, Westminster, who have been appointed for the preparation of all the plans and technical information for the erection of this building.



Martin, Hood and Larkin, Gt. Newport St., London, W.C.

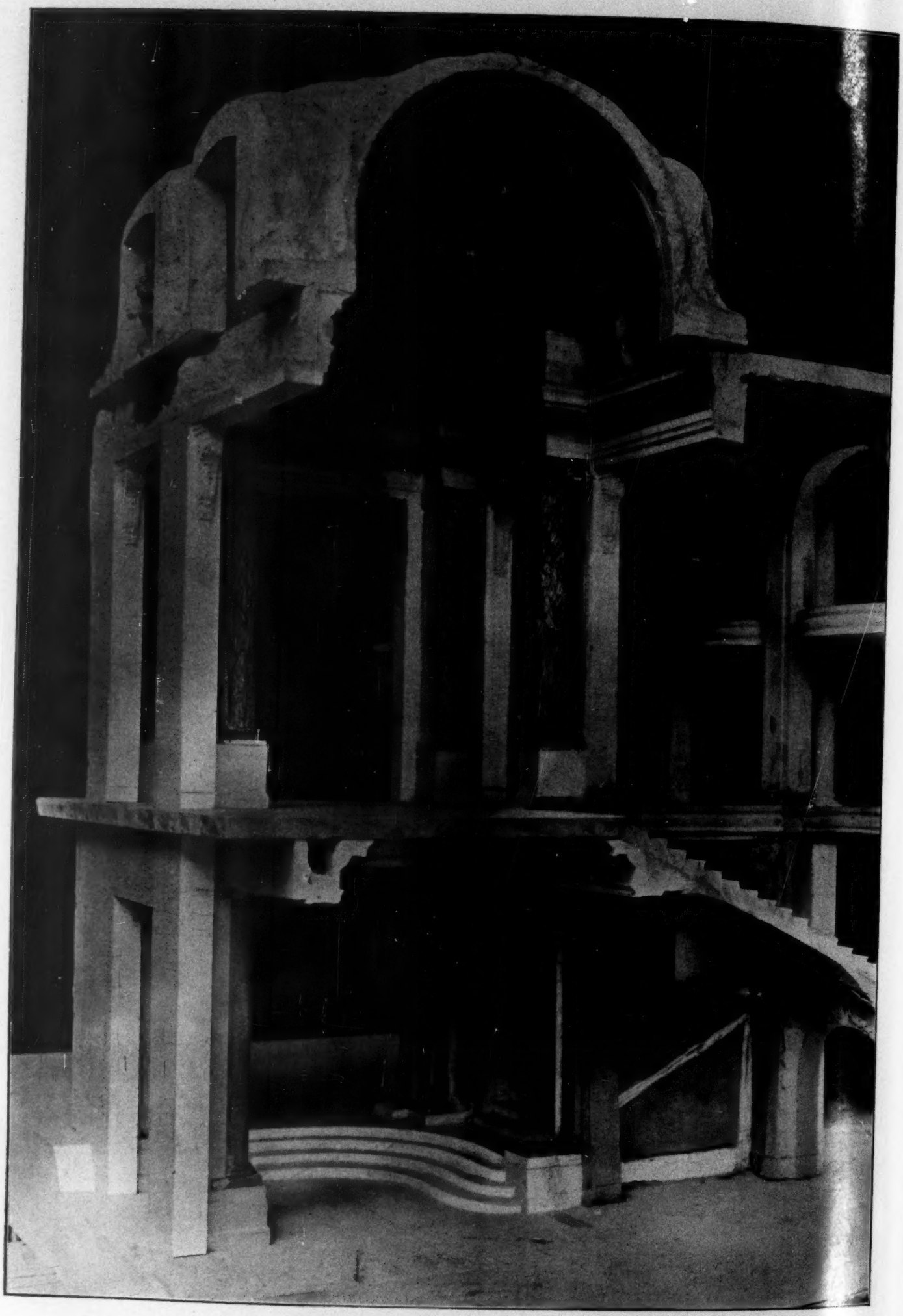
EXPOSITION UNIVERSELLE 1889, PARIS.—PAVILION MINISTÈRE DE LA GUERRE.

SCULPTURED DECORATION.

Martin, Hood and Larkin, Gt. Newport St., London, W.C.

THEATRE, NANCY.

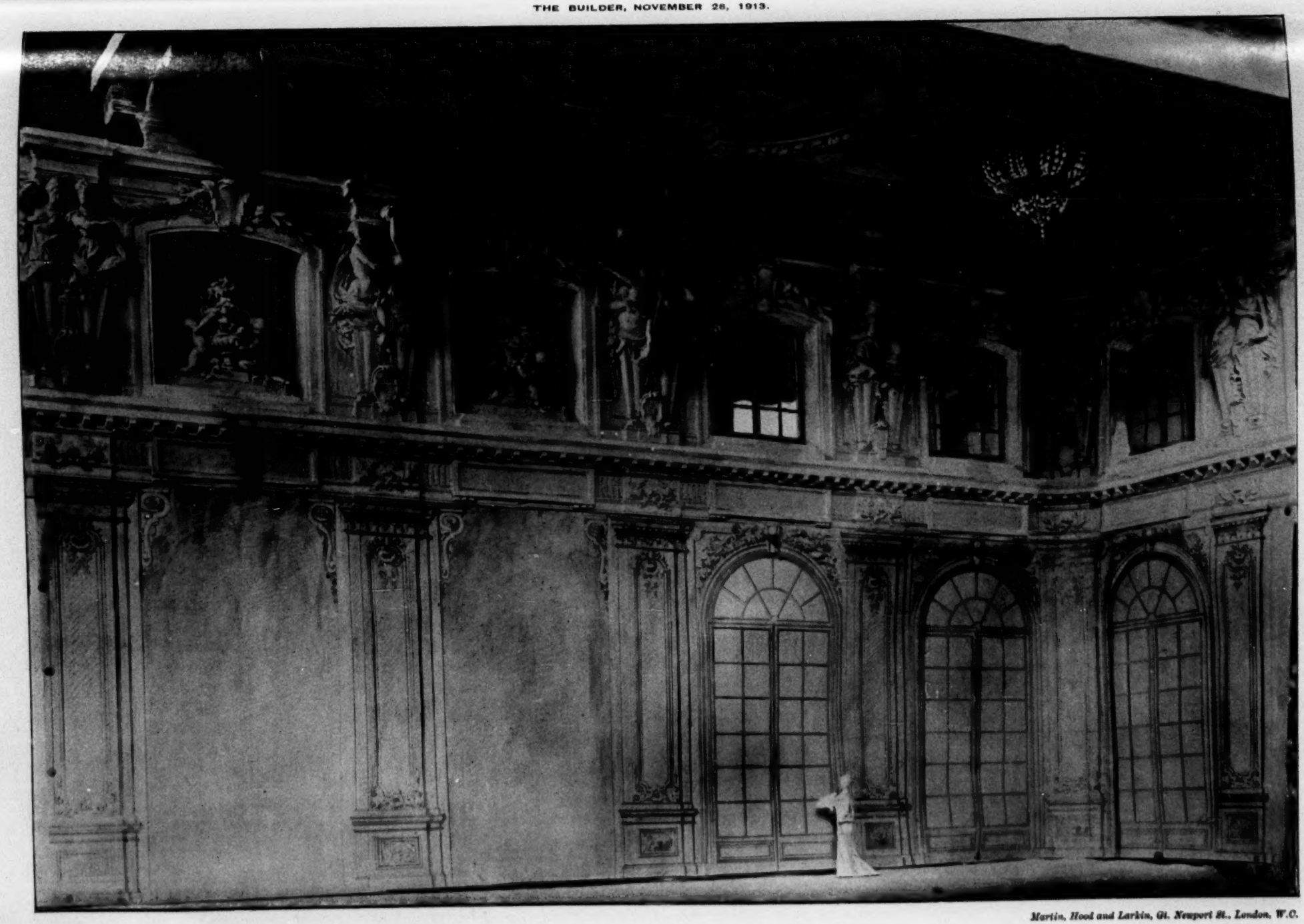
MODELLED DECORATION.



Martin, Hood and Larkin, Gt. Newport St., London, W.C.

THEATRE, NANCY: M. HORNECKER, ARCHITECT.
M. RAGON, SCULPTOR.

THE BUILDER, NOVEMBER 28, 1913.



Martin, Hood and Larkin, 61. Newport St., London, W.C.

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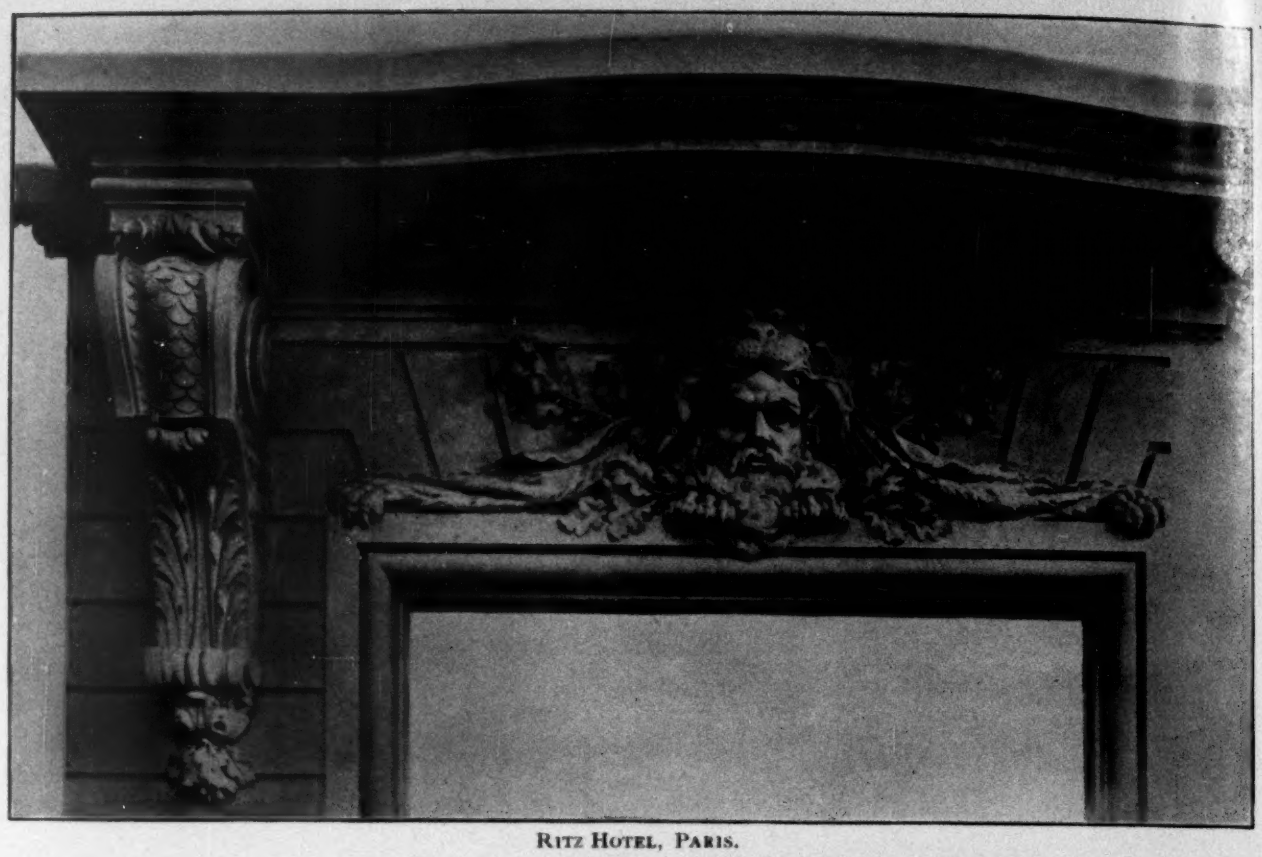

RITZ HOTEL, PARIS.

ROYAL AUTOMOBILE CLUB, LONDON.

HOTEL DE M. MAX VON GUILLEAUME, COLOGNE.

Martin, Hood & Larkin, Gt. Newport St., W.C.

SCULPTURED DECORATION.

ROYAL AUTOMOBILE CLUB, LONDON.

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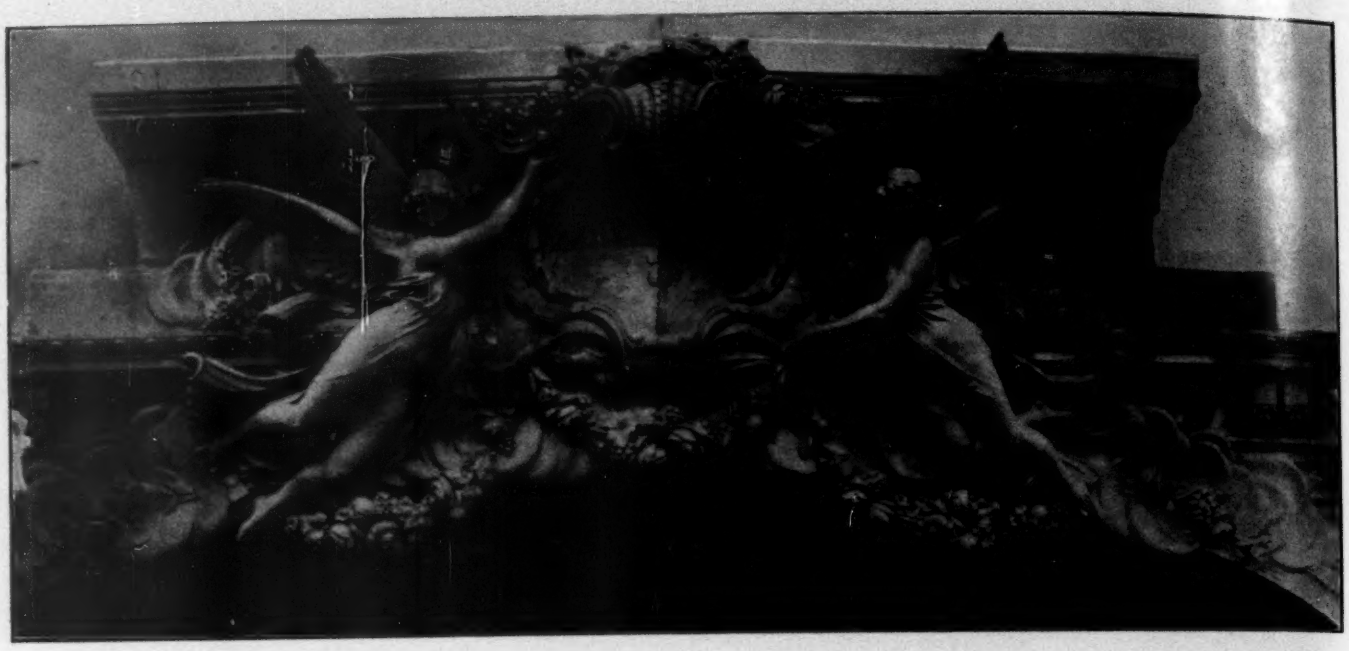

THEATRE, NANCY.

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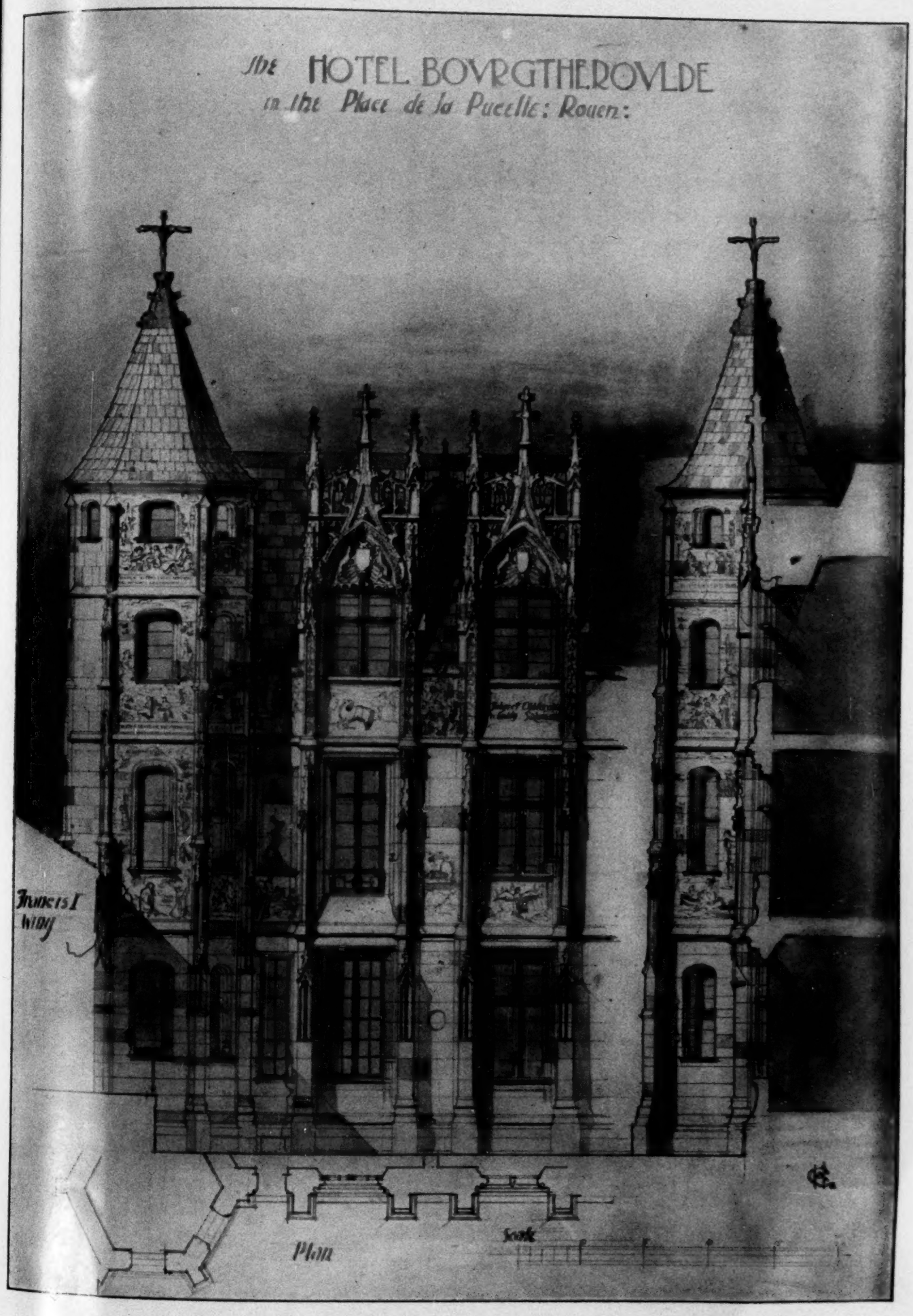
Martin Hood & Larkin Gt. Newport St., Lo[illegible] W.C.



Martin, Hood & Larkin, Gt. Newport St., London, W.C.

THE HOTEL BOURGTHEROULDE, ROUEN.—FROM A DRAWING BY Mr. C. A. HARDING, A.R.I.B.A.

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II.—WI

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LIGHTING, HEATING, AND SANITARY ENGINEERING SECTION.

ELECTRICITY FOR COUNTRY HOUSES:

II.—WIRING SYSTEMS.

IN the first article of this series the subject dealt with was the generating plant and its various modifications. Having generated the electric current efficiently, the next matter of importance is to distribute it in a manner both economical and convenient. By "economical" it is necessary to understand not only the system of wiring employed, but also the manner in which it is employed; and it goes without saying that in order to be economical in regard to the system it is imperative to consider durability as well as first cost, whilst the system of wiring must be so laid out as to give the desired results at a minimum of cost, not only initial, but in the use of the lights. A badly-laid-out scheme of wiring, no matter how good the system, may cause great inconvenience in control of the lights and a good deal of waste of current. When proposing to wire a house, therefore, there are two main considerations to be taken into account—namely, the system of wiring to be employed and the best way of utilising it.

The system of wiring is dictated by two considerations—namely, the condition of the house and the amount of money available for the wiring. Undoubtedly, if the house is not yet built it is permissible and possible to use any system of wiring in reason—that is, bearing in mind that a certain amount of moisture and active chemicals will remain in the plaster for some time, so that the india-rubber insulation and coverings of the wires must be adequately protected. On the other hand, if the house has already been built it is not always possible to use any system of wiring. For instance, the house may be an old one, with very thick walls and other structural factors which would preclude cutting away to the extent required for a conduit system. In any case, whether the house be old or new, there may be decorations to be taken into account quite apart from structural difficulties, which would rule out any cutting away. Again, the house may be relatively new and about to be redecorated, so that any system could be installed if the owner were willing to pay for it as well as for the cutting away and making good. Hence, it is clear that the system of wiring is one which must be decided on the merits of each case; but, generally speaking, it may be stated that preference is given to those systems which are most durable, cost least to supply and instal, and cause a minimum of disturbance to the structure and decorations.

The owner of a private plant is, in one respect, better off than the consumer of electricity derived from a public supply—namely, that in regard to the system of wiring he employs, and the manner of its carrying out, he has only to please his fire insurance company; whereas his less fortunate brother has to conform to the rules of his electricity supply undertaking as well. This does not make much difference nowadays, because the rules of the Institution of Electrical Engineers are generally accepted all round; but there are many old installations in the country which, if connected to a public supply now, would have to be overhauled, although they may really be quite safe even though out of date. However, it is more satisfactory to have to deal with one authority only. This short divergence brings us to the consideration of the various systems of wiring and may serve as bearing on obsolete or obsolescent systems.

Undoubtedly the first wiring system employed was the use of india-rubber insulated wires without any further protection, because this would have been the most natural thing to do. Æsthetic considerations and experience probably determined very quickly the necessity of some form of mechanical protection. Straggling wires are not a thing of beauty, and the insulation is not always proof against rodents, mechanical strain, moisture, etc. It is true that in the early days some installations were carried out in this country in which the insulated wires were stretched over porcelain reel insulators fixed to the walls and ceilings (the writer can remember such a system at De Keyser's Hotel, London); and, although the wires were kept straight by this method and the cost of installing was low, the effect was still unsightly. Curiously, this system was elaborated on the Continent, twisted, flexible wires and small insulators being used, and has continued up to this date, although it is rapidly passing out of use now. It was, however, condemned here until a few years ago, and was only made permissible then when the demand for a cheap wiring system had been met in other ways.

The next step was to enclose the insulated wires in wooden casing and capping, a method which is still largely in vogue, especially where the wires are out of sight—*e.g.*, between floors. The advantages of casing are that, if carefully fitted, it can be made to look fairly neat, whilst it provides a limited protection to the wires. The latter were also frequently enclosed in compo piping, especially inside lath and plaster walls; but, as the compo afforded little protection and was more expensive than iron, it was soon dropped. In the early days also Mr. J. D. F. Andrews invented a system in which insulated wire was surrounded by an armouring of bare wire, which served the double purpose of protection and as the return path for the current. Messrs. Mavor & Coulson also had a somewhat similar system, and both of these concentric systems were useful at the time for certain purposes and of great importance as the prototypes of others not yet thought of. Certain electrical contractors who carried out good work which was intended to be permanent then adopted gas barrel for protecting the wires. The system was relatively expensive, because it necessitated a good deal of cutting away and chasing if the work were concealed, besides the employment of pipe-fitters and screwing machines. In order to draw the wires through, a system of accessories was devised, in the form of cast-iron draw-through and inspection boxes. The great disadvantage of gas barrel, however, was that the burrs in the interior caused the insulation of the wires to be damaged during the process of drawing through. Then came a very important development. Mr. L. M. Waterhouse, now managing director of Simplex Conduits, Ltd., knowing that gas barrel was not watertight, and that this quality was neither necessary nor desirable for the wires, introduced a complete and well-thought-out system of steel conduits and fittings, the former being nothing more than the "close-joint" barrel of the Birmingham bedstead trade. These conduits, having a smooth interior and a well-enamelled exterior, were provided with a system of slip-joints, which rendered erection easy and rapid.

Simultaneously other systems began to appear. Lead-covered india-rubber wires were introduced for surface work; also lead-covered paper insulated wires; but these two systems never became very general, owing to the necessity of employing "wiped" joints. The Simplex system, however, found many imitators, and competition for cheap work soon neglected its draw-through possibilities, the wires being threaded through as the conduit was erected. In order to meet a demand for a draw-through system of a more solid kind, modifications of the Simplex system were introduced, in the form of smooth-bore screwed steel barrel and seamless barrel. All these methods are still in use—slip-joint barrel combined with wooden casing for small property, and cheap wiring generally; and solid draw-through screwed barrel only for many large public buildings, etc.

The next step, which was a great move forward, was the Kalkos system of Messrs. Handcock & Dykes. This involved the use of tinned smooth-bore brass tubes with slip-joints or sockets, and a series of fittings to meet every possible circumstance. The most important feature of the system was that the joints were all soldered, thus providing that metallic continuity throughout the installation which could only be obtained with slip-joint steel barrel by mechanical devices. It should be explained that metallic continuity and earthing was made compulsory in all metal-cased wiring in order to protect users from accidental shock in case a section of the conduit became charged due to faulty insulation of the wires. It was also claimed that Kalkos conduits, being made of a metal that is a good conductor of heat, were not subject to condensation of moisture due to unequal temperatures existing between the interior and exterior of the tube, as is the case with steel. But the soldering of the joints presented a further advantage over steel barrel in that Kalkos conduits could be employed as the return conductor of a concentric system—*i.e.*, that small conduits, each containing a single wire, could be used in place of steel barrel of larger size containing two wires. Concentric systems had been used before, as already stated, but these were somewhat expensive to instal and required special lampholders, etc. The Kalkos system, however, if used for concentric wiring, was not expensive and was very neat, so far as a conduit system could be neat. This system has been and is extensively employed for good work, and the conduits and fittings are sold by the Sun Electrical Company, Ltd.

We now come to comparatively recent times, when there was a great outcry by central station engineers for cheaper methods of wiring generally on account of loss of revenue due to the introduction of the efficient metal filament lamp. Then it was that the Continental system of flexible surface wiring was made permissible (as already referred to), but something better was evolved to meet the demand, in the shape of "Stannos" wires. These wires, with the necessary fittings, were introduced by Messrs. Siemens Brothers & Co., Ltd. (under licence from Messrs. Handcock & Dykes, and others), and consist of copper conductors, insulated with india-rubber and tape, and then lapped round twice by a closely-compressed sheet of tinned copper, the whole being rendered homogeneous, watertight, and electrically continuous. Being quite small in diameter and semi-flexible, Stannos wires can be run on the surface of walls with great ease, and are very unobtrusive, whilst if concealed they necessitate a minimum of cutting away and making good. They can, however, easily be painted the colour of the decorations or covered with wallpaper. For old houses, with elaborate wood-carvings, stonework, panels, etc., they afford an easy solution of inexpensive and efficient wiring, especially as the metal sheathing can be used for the return current of a concentric system, so that one wire is used where two would otherwise be necessary. Where ordinary surface or concealed wiring is required, Stannos wires are used with special continuity fixtures; but, where the wiring is to be watertight, the wires are soldered into Kalkos boxes. The complete systems, with or without Kalkos, is sometimes known as the O.S. Wiring System.

Shortly after Stannos wires were introduced Messrs. W. T. Henley's Telegraph Works Company, Ltd., put on the market the Henley wiring system. In this the insulated wires are either concentric or twin; we are chiefly concerned with the former for country house wiring, and in this case the insulated wire is wrapped round with a spiral copper tape, the whole being then sheathed with a solid drawn seamless tube of soft metal of the nature of lead. Like with Stannos wires, a few special fittings are required, and all that has been said of Stannos wires in regard to neatness, flexibility, etc., holds good also for the Henley Wiring System. Whilst no doubt many country houses are still being wired with wooden casing and steel conduits, it is safe to say that by far the greater amount of work is being done with the Kalkos, Stannos, and Henley systems, more particularly the second and third. For old houses these involve the minimum of cutting away, and in all cases there is practically no disturbance to decorations. For houses in carcass Stannos and Henley concentric wiring present by far the cheapest, most efficient, and most durable systems.

We will now consider briefly the lay-out of a wiring system. The switchboard in the engine-room is connected to the main switch in the house by two cables capable of carrying the maximum current. These may be ordinary insulated and braided cables carried in iron

barrel, or they may be laid direct in the earth if armoured and lead-covered, or, if the system is concentric, one pole may be earthed at the switchboard and a concentric cable brought to the house. In the early days the wiring was done on the so-called "tree" method—that is, small circuit wires were branched off the main cables, and smaller sub-circuit wires again from these, like a tree with branches gradually diminishing in size. This method had the disadvantage that a fuse had to be inserted at every branching-off point to render the installation quite safe, and it lacked proper control. This method has been superseded by the distributing fuse-board system. In this the cables from the main switch are taken to a distribution switchboard, having a switch and double pole fuse for, say, each floor or wing. Circuit wires run thence to the various floors or wings, each terminating in a distribution fuse board, having a double pole fuse for each group of, say, six lights forming a sub-circuit. By this means it is perjectly easy to control the whole installation, and if a fuse blows to locate and replace it quickly. There is a good deal more than this involved, however, in the proper lay-out of a wiring system, although it is only possible to deal with the subject in a general manner, as each case has to be considered on its own merits. In the first place, it should be accepted as an axiom that the client has very little knowledge of how to light his house properly, and if the matter is left to him the lighting may be most inefficient or uneconomical. The number of lighting points depends very much on the nature of the rooms and the style or colour of the decorations, and whether the client wishes to go in for the luxury of indirect lighting. These questions are for experts in illumination, and every architect nowadays should know something of the subject or consult another expert before advising his clients in regard to illumination. This subject will be dealt with in another article, but it may be said that the modern and correct tendency is to eliminate lighting points fixed here or there to suit the disposition of the furniture, and to instal a system of diffused illumination so that the lighting of a room is as near as possible equal in all places. This is, of course, a great factor in the fixing of the lighting points and the lay-out of the wiring system, and tends largely to reduce the number of ceiling points, whilst wall plugs should be liberally provided for individual use of reading lamps, piano lights, heating utensils, fans, etc. However, all depends on the size of the house and the idiosyncrasies or otherwise of the client, and so it is impossible to lay down general rules in regard to the positions of the lighting points.

The question of control is, however, quite another matter, and, whatever the number of lights or their positions, the lay-out of the wiring should be such that it is never necessary to burn more lights than are required, and that no room need be entirely in darkness if a sub-circuit fuse blows. The latter object is attained by arranging the wiring so that all the lights in any one room are not protected by one fuse only, but by two or more. That is to say, two sub-circuits feed groups of lights equally distributed amongst two or more rooms. The economical control of the lights is effected by due regard to the switching arrangements, and here, again, we are met by such a variety of combinations that it is impossible to lay down any general rule. Nothing makes an electric light installation more satisfactory to the client than the possibility of being able to control the lights as he wishes, of being able to switch on lamps from more than one point, and of being able to use just as many lights as he wants and no more.

THE OPEN-AIR SCHOOL.

UNDER the auspices of the Chadwick Trustees the first of a series of three lectures was delivered at the University of London on Tuesday, the 4th inst., by Sir George Newman, M.D. (Chief Medical Officer Board of Education), on "The Place of the Open-Air School in Preventive Medicine."

Sir George Newman said that at first sight there did not appear to be very much to say about open-air schools except perhaps to encourage the audience to go and live in one of them, but although this was not an abstruse subject it was one of growing importance. If they would stem the tide of physical and mental defect in the childhood of this nation he had no doubt it would be along the lines of what he had called the open-air school process. He looked upon the open-air school not as a school held in the open air, but as a method, a process, a treatment of all education. The necessity of educating the body before attempting to educate the mind was recognised by the ancients. Plato and Aristotle referred to the value of gymnastics in the open air, not with the object of producing acrobats, but for the scientific training of the human body. The open-air ideal was characteristic of the best days of Greece and Rome. It fell into abeyance until the Renaissance period, from the middle of the seventeenth century to our own time. Sir George quoted the sayings of John Locke and Rousseau and Pestalozzi as advocating body culture before the education of the mind, and they urged that it should be carried out in the open air and before the normal child.

The modern period, continued Sir George, differed from that period in that there had been a renaissance of the idea of educating the abnormal child in the open air. That was due to different factors:—(1) The growth of urbanisation of the towns, which had necessitated a different method of education. In 1870 there was a movement, which had been considerably developed in America, to get the child into the open air, and parks and open spaces were provided for children to play in. (2) The children's country holiday movement began in 1873 in this country. (3) Mrs. Humphry Ward began the system of vacation schools in connection with the Passmore Edwards Settlement. All these movements had helped forward the open-air school movement; and no doubt some contribution had been made by the general dissatisfaction they all felt with the conditions under which many children were compelled to be educated in the schools in the large towns. Some of those schools were not ideal. Another factor which had helped the movement was the efforts to prevent tuberculosis, which had impressed the public mind with the remediable effect of the open-air treatment for consumption.

What were the evidences of a sick child, and what could they do to prevent the causes of that sickness? The first important fact was that a great mass of children died under five years of age, and the period of school life was one in which very few children died. The same applied from fifteen to fifty-five, and from that time there was, of course, a very large increase. There were four great causes of death before old age, namely, tuberculosis, diarrhœa, pneumonia, and heart disease; but the seeds of those diseases were sown in childhood, and were known under the names of measles, whooping-cough, diphtheria, malnutrition, and tuberculosis. If they were to lower the death rate from those diseases they must turn away from the external environment of the sewerage, water supply, and housing, and deal with the personal condition of the children under school age and up to fifteen. Measles was responsible for the deaths of 47,000 children in one year. First they got measles, then tubercle, and then a cripple. It was no use trying to prevent disease when it was matured. They must attack it when they could grapple with it, and it must be remembered that disease in a child responded more readily to treatment than in an older person. A large proportion of these deaths from measles was preventable, or, at any rate, remediable. At least 70 per cent. of those deaths ought not to have taken place. There was a great deal that the open-air process could not do. It could not deal with the children under school age, but it could deal with the children of school age in five ways, namely:—(1) By nipping the disease in the bud at its earliest and most incipient stage; (2) by preventing the after-effect of disease, which in many cases caused death or disablement; (3) by supplying the opportunity of repair; (4) by nurturing the debilitated and backward child; (5) by furnishing a new way of life for these children.

Sir George remarked that we had a large number of rotten physiques in our schools, and this was, in brief, his case for the open-air school process. In his succeeding two lectures on the two following Tuesdays he would show them schools which were doing effective work on the lines he had indicated.

Subsequently a number of pictures were shown by means of the lantern slides depicting the life at open-air schools at Birmingham, Sheffield, Halifax, and Charlottenbourg (in Germany). Speaking of the open-air school at Uffoulme, which had been presented to the city of Birmingham by Mr. Barrow Cadbury, Sir George Newman said that the school had been constructed at considerable cost, and the very best methods were being applied for the benefit of the children. There was no doubt that it was one of the very best open-air schools in the whole country.

HOUSE-DRAINAGE LAW.

IN connection with the Chadwick public lectures, London, 1913, a meeting was held at the Institution of Civil Engineers, Great George-street, Westminster, S.W., on Monday, November 17, when Mr. W. Addington Willis, LL.B., delivered a lecture on "House-Drainage Law."

He said that the law of sanitary drainage is scattered piecemeal among many Acts of Parliament, some relating to the City of London, others to the remainder of the metropolis, and others, again, to the provinces; and even here the law is not the same for all parts, since, besides numerous local Acts, there are adoptive statutes which may or may not be applied to a given district. These various statutes, and the decisions thereon, constitute a puzzle of uncertainties, inconsistencies, and sometimes absurdities. After a brief sketch of the history and evolution of the present law the lecturer proceeded to a consideration of the eternal question of "sewer or drain." The question is of practical importance. Upon its correct answer depends the liability of maintenance; and if the pipe in question is a sewer on private land the owner's proprietary rights are affected by the Council's rights of access and the prohibition against building over sewers without the Council's consent, which it is in their power to give or withhold and for the giving of which terms and conditions may be imposed. Owners frequently hesitate between the alternatives of present financial relief coupled with future possible restrictions on building and a present liability to maintain the pipes with a free hand for developing their property in the future As a rule, however, the bird in the hand of present financial relief is the most welcome, and the owner seeks to establish that the pipe in question is a sewer vested in the authority.

The existing uncertainty in the law, or in its application, is to be deplored, and is due to the Legislature having attempted to be too specific and precise in defining terms. The common-sense view is that what a man constructs on his property for his own convenience ought to be kept in order by him. This common-sense view was the one adopted by previous generations in the local Acts before 1848 and in the Model Act of 1847 relating to the subject. In 1848, however, the Legislature set out to define the terms "drains" and "sewers" for all times and circumstances, and repeated this in later statutes. The lecturer next proceeded to discuss the definition of "drain" so far as it is common to all areas.

The definition is so cast that any pipe which does not exactly coincide with the definition falls into the category of "sewer."

The explanation of the word "curtilage" was assisted by the exhibition of diagrams representing the systems of drainage in the three leading cases. If premises are separately occupied and separately rated they will not be considered as "premises within the same curtilage" merely because there may be common access and common accommodation.

Drains may be used for rain-water only, and, according to the cases, may include the stack-pipes on houses.

All drains which are not "drains" are "sewers." But as it is essential that a sewer should, generally speaking, carry its contents away, pipes which end in a cesspool are not sewers, notwithstanding the apparent decision to the contary in Pinnock *v.* Waterworth. This proposition was illustrated by two or three cases—Meader *v.* West Cowes Local Board, Button *v.* Tottenham Urban District Council, Pakenham *v.* Ticehurst Rural District Council—and diagrams were shown to explain these decisions.

One of the most interesting and far-reaching discoveries of modern times is that a sewer vested in the Council may exist entirely on private property, and it was the establishment of this principle which has given rise to many of the anomalies and hardships (from the ratepayer's point of view) existing at the present time.

The law of drainage has its doctrine of conversion, for where two drains from separate sets of premises meet they generally constitute a sewer from the point of juncture. These joint sewers may be made lawfully or unlawfully. The astonishing feature of this doctrine of

conversion is that, broadly speaking, if a private individual effects a combination of drainage surreptitiously, and without authority, the law rewards him, or, at least, his successors, by throwing the liability of maintaining the unlawful connection on to the ratepayers. A few illustrations were given of what the individual can accomplish in the way of getting rid of the expense of maintaining his house-drainage. Eight boroughs in London spend, on an average, annually £2,100 each in repairing these unauthorised sewers.

The catch phrase, "once a sewer always a sewer," must be used and received with caution. A recent case has shown one exception, at least, to this—namely, when a Metropolitan Council exercise their power to compel a wrongdoer to restore unlawfully constructed drainage to its proper condition. Even if it formerly became a sewer by such wrongful acts it does not continue to be a sewer after the restoration.

The lecturer concluded with a consideration of the question whether a rain-water pipe fixed to a house can be a sewer. Mr. Justice Channell, in one case, regarded the suggestion as ridiculous, but at the same time admitted that decided authorities gave support to it. Ridiculousness is not a fatal termination to a proposition in drainage law. If this were entirely new ground anyone would hesitate to answer the question in the affirmative, and so probably would the courts if they were not bound by decided cases. After stating the facts and decision in Selles *v.* Fulham Borough Council the lecturer pointed out that the provision of gutters and stackpipes was the subject of by-laws and statutes for sanitary purposes just as much as was the provision for the drainage of yards. Once it was admitted that the definitions of "drain" and "sewer" in sanitary legislation extended to pipes conveying fresh or rain water only it seemed impossible to draw a distinction in principle between a horizontal pipe and a vertical one, or between one affixed to the building and one carried on a concrete bed beneath or at the side of the building. Some day an enterprising and litigious householder will claim damages from a Council for injury done by a leaking stackpipe, or call upon them to repair it. The Court of Appeal may then have an opportunity of distinguishing, if they can, such a case from the decisions already given.

The next lecture related to the rights and responsibilities of citizens and Councils, both in the provinces and in London, particularly with reference to drainage of new and existing buildings, the provision of outfalls for drains, and the maintenance of drains. It concluded with an illustrated description of the manner in which the central authority in London have discharged their statutory duty of dealing with sewage so as to prevent its discharge into the River Thames.

The lecture was delivered on Monday, November 24, and it commenced by showing the manner in which obligations in respect of drainage were distributed, the power of Councils to make by-laws, and the power of the London County Council to regulate the building of houses in low-lying lands. The lecturer then started with a bare plot of land upon which he assumed a citizen was seeking to build. He showed the statutory requirements as to drainage, the obligation of the individual to deposit plans, and the duties of the Council in considering them. In this connection it was shown that a provincial authority, passing plans for the joint drainage of several houses belonging to the same owner, could not adequately protect themselves by an agreement on the part of the builder that he and his assignees would for all time repair the joint pipes as if they were drains and not sewers. Such an agreement was not enforceable against the assignees even if they bought with notice of it. The manner in which the work was to be carried out after the plans had been approved was next discussed, the by-laws being divided into those directed against the evil of damp and those regulating the construction of the drains themselves.

It was shown that the authority could not compel or authorise the connection of drains in any way which involved carrying them through a stranger's land without his consent, even though the distance traversed was but a few inches. In the event of no suitable sewer being available within the statutory radius, cesspools may be made, but they must conform to all the by-laws relating to them, and a by-law which required the cesspool to be a certain distance from the house was not unreasonable, because in a particular case it was impossible to comply with it. The powers of a Council to require the adequate drainage of existing houses cannot be exercised to compel an alteration of the drains rendered necessary by the introduction of or change in the system of sewerage, or by the discontinuance of a sewer. This was succeeded by a consideration of the rights of the citizen to connect his drains with the sewers of his district and the obligations of the Councils to provide such sewers.

The maintenance of drains was the next part of the lecture, showing the powers which Councils have to require defective drains to be remedied and nuisances in them to be suppressed.

After short references to the powers and duties of Councils in respect of sewers, the lecture concluded with a description of the manner in which the Metropolitan Board of Works and their successors, the London County Council, have, by means of intercepting sewers, prevented the sewage of London from flowing into the Thames within the metropolitan area. The whole lecture was supplemented by an exhibition of diagrams, plans, and pictures.

The third lecture will be given on Monday, December 1. The chair will be taken by Sir Wm. Collins, M.D., M.S., B.Sc., etc., and admission is free. The subject is "The Combined Drainage Problem as it exists both in the provinces and in the Metropolis."

AN OLD AGREEMENT.

ARTICLES of Agreement Indented had made Concluded and fully agreed upon the thirtiethone day of October in the yeare of our lord God One Thousand 6 hundred and ffiftie Between Isaack ffoster Cittizen and Grocer of London of the one partie And Beniamin Warden Cittizen and Carpenter of London of the other partie as followeth.

INPRIMIE the sayd Beniamin Warden for himselfe his Executors and Administrators (for the Consideration hereafter expressed) doth covenant promise graunt and agree to and with the said Issack ffoster his Executors Administrators and to and with every of them by these presents That he the said Beniamin Warden his Executors Administrators Assignes or some of them shall and will at his their or some of their proper Costs and Charges upon or before the five & twentieth day of March next ensueing the date of these presents build erect sett up Compleat and fully finish with all Carpenters worke hereunder menconed a certaine peece or parcell of ground situate and being in Pauls Churchyard in the southside of Pauls Church neere the East End of the sayd Church now sett out and allotted for that purpose five severall houses Messuages or Tenements in manner and forme as hereafter is expressed That is to say the westside of the sayd building to be one and Thirty foote deep from the street to the back part little more or lesse The East side of the building of the first three houses to be Thirty foote deepe little more or lesse and the two other houses Eastward as they are now sett out upon the Bevill. And the Breadth of the said five houses to be as it is now sett forth or as the grownd will affoord, with an entry of fower foote little more or lesse through the sayd building leading to the grownd behind the same and to build the said houses from the Sellers upward and every of them fower stories high with good tymber. The first story of all the sayd building to be made Ten foote high from Upside to Upside, the second story to be nyne foote high from Upside to Upside, the third storie to be Eight foote high from Upside to Upside, and the foweth Storie to be Seaven foote high to the upside of the raysing The Vaults in the sellers to be Covrd with oaken Tymber and boards and the Seller floores to be covered with oaken Tymber with a frame of Tymber fitt for boards for the Sellar Windowes The Tymber of all the Sellar floores to be as followeth viz. The girders to be Nyne ynches and tenne ynches, the Joyces sixe ynches and three ynches, The Sommers of the grownd floores to be Eleaven ynches and Nyne ynches The Joyces sixe ynches and a Halfe and Three ynches, The Sommers of the Third and fowerth ffloores each to be Tenne ynches and Nyne ynches and the Joyces Sixe ynches and three ynches.* The Sommers of the ffifth ffloore being the uppermost to be Sixe ynches and Eight ynches, The Joyces ffive ynches and Three ynches The three first Stories of all the Building to the ffront, the Plate to be Sixe ynches and Eight ynches, The posts to be Eleaven ynches and fower ynches, The Brest Sommers to be Eleaven ynches and Seaven ynches The Three upper Stores Posts of all Buildings to be Eight ynches and Sixe ynches. All the Enterlieve to be Seaven ynches and ffive ynches, and all the rafters of the buildings to be ffower ynches and a halfe and Three ynches, To make a Dormer in each house to goe into the Gutters, and to make the Gutters fitt to lay lead in, To make Three kant windowes one over another in every of the sayd howses to the front with ffower lights upon the Brest and one light of each side upon the Kant, And in the first windowe of all the Buildings over the Shoppe to make two lights compassed upwards under the Transum. The Tymber of the Sellar ffloores the lower Storie to the front and all the Windowes without the upright Walls of the Buildings and the roofs and raysings and the Joyces in the second ffloores of the back roames to be all of good Oaken Tymber. To make to every of the Sellars a payre of Stayres, and to every of the sayd five houses three payre of Stayres with open Newells where the places will afford, and all the Stayres to be made of good Elme boards and to board in every house ffower ffloores quite through every house with good Deale boards The Second ffloores of the Buildings next the Streete to Jetty over Eighteene ynches, and the uppermost ffloores to Jettie over to Cover the Windowes, and the Joyces of the Jetty of the second ffloore to runne beyond the jetty two foote and a halfe. To make a Penthowse upon the sayd joyces fitt for tyling. To make three Cornishes over all the Windowes of the Buildings to the front and to Cover them with Oaken Boards, To make the Posts and Seates att every of the Streete Doores, and Stall boards to all the Shoppes, The Backlight of all the Shoppes to be drawne out of the Second Story and to be boarded from the Second ffloree soe high as the light shall be, and the light to be of a sufficient height To make Trusses to Carry the Chimneys from the Sellar Walls and Mantletrees and Tassells. To make a frame for glasse in the roofe of each house and a Doorecase to each of the sayd howses backward with a quarter in the Middle, To make two Doores at each Stayres head and a Sellar doore to each house all of sufficient Tymber To find nayles for all the Carpenters worke aforesayd and fixe locks to the Doores and hinges to all the Doores, windows and Stallboards to everie of the sayd howses To make a Board for the Stoole to each Vault in every of the sayd howses to board both the side walls of the entry and to Doe all the Premmises abovemenconed workemanlike

IN CONSIDERACON of which Buildings and workes to be made and done as aforesaid the sayd Isaack ffoster for himselfe his Executors Administrators and Assignes doth covenant and graunt to and with the sayd Beniamin Warden his Executors Administrators and Assignes and to and with every of them by these presents well and truly to pay or cause to be payd unto the said Beniamin Warden his Executors Administrators or Assignes the Summe of Three Hundred and ffiftie pounds of lawfull money of England in manner and forme following That is to say One hundred pounds thereof when or as soon as the Sellar floores are layd, One hundred pounds more thereof when or as soon as the whole frame shall be sett upp, Threescore and Tenne pounds more thereof when or as soon as the windowes and the roofes shall be putt upp: And fower score pounds more thereof being the Residue and remaynder of the Sayd Summe of Three hundred and ffifty pounds above menconed when and as soone as the sayd worke shall be fully finished and Done in such manner and forme as is above specified and sett downe IN WITNES whereof the sayd parties abovenamed to these present Articles of Agreement Indented interagreeably have sett their hands and seales the day and yeare first abovewritten.

BEN WARDEN.

Sealed and delivered
in the presence of
EDWARD STOCK.
SIMON : ROGERS.

Seal.

From another old deed I gather that three of the houses referred to were sold in 1652 to "Edward Stock Cittizen and Tyler and Bricklayer of London."

W. GLASSBY.

* Memo. in margin:—
Memorandum it is agreed upon by the parties to these presents on the day of the date hereof that the windows of the shops stalls and posts shall be done after the forme of Simon Rogers his shoppe.
BEN. WARDEN.

THE BUILDING TRADE.

THOUGHTS ABOUT COST KEEPING.

THERE are few more complex trades than that of the builder; if he undertakes to build a mere cottage he will have to co-ordinate the products of at least ten branch trades, each more or less independent of the other. With one of these branches, generally the joinery, he will have that intimate acquaintance which comes from an apprenticeship served; of the others he will have a casual knowledge, gained instinctively from frequent contact during his experience as an apprentice, journeyman, foreman, and master.

The co-ordinating of so many branch trades involves considerable foresight and insight to so determine the progress of each that there is no putting of the cart before the horse, no waiting of one trade upon the other, but that each shall so exactly dovetail with the other that a continuous growth of the building takes place from the moment the first excavator's spade is started until the last bit of door and window furniture and the last paperhanging have been completed.

The progress of each branch depends, primarily, upon a properly calculated delivery of the goods, finished or unfinished, which appertain to each branch; this implies having everything thought out and settled sufficiently long before the work has to be started so that the manufacturers of the various materials for each trade may have time to prepare and deliver the goods, and a due margin must be allowed for mishaps and delays in transit.

There is, at times, serious and unavoidable delay, due to accidents, such as a few pieces of indispensable ornamental or moulded terra-cotta work failing in the kiln, an accident capable of dislocating the best-laid programme of progress. Besides these, there are interruptions due to unforeseen delays by workmen, by local authorities, by weather. Such delays have to be provided against if the builder is engaged in speculative building, where he has the maximum of authority and the minimum of outside interference; they are intensified considerably, however, if he is working under contract, because he has to submit so much to the direction and sometimes suffers from the inattention of architect and building owner. At the back of it all is the ever-insistent pressure of the capitalist, who is supplying the money and to whom interest-bearing investment is the beginning and end of the matter.

Whether he builds for speculation or under contract he has to count the cost beforehand. In the former case he has to calculate the cost in relation to the demand for, and rental value of, property in the district in which he intends to operate, so that virtually he is in competition with every other speculator who is operating in that neighbourhood; in the latter case he has to compete with a number of other contractors, and, therefore, must calculate his detail prices with care and accuracy, or he will not be successful.

It becomes of importance, then, to every builder to have at his disposal accurate information upon which to base his detail prices.

There is a popular saying that an ounce of practice is worth a ton of theory, which is applicable in this connection because the true guide to the pricing of work must be the records of experience. The main function of cost keeping becomes, therefore, the collecting of such records and their presentation in such form that as we proceed we can verify the accuracy or otherwise of the cost we counted beforehand, or of the tender we bound ourselves to carry out, and also that they may become the basis of future prices. In short, cost keeping should be at once the test of past prices and the basis of new ones. Cost-keeping systems are numerous, but the writer has not seen one that adequately serves these two purposes. What the cost systems in use seem to do is to test the total cost of the whole job, and possibly the total cost of well-defined sectional trades. To a limited extent such a test may serve as the basis for future work, but only on condition that the two works are substantially similar. Now, a building being a complex thing involving many trades, and as each trade involves many details peculiar to itself, there can be no lumping methods of arriving at estimates or cost capable of yielding anything but rough approximations. Such methods passed muster when margins of profit were wider than they are now; for instance, a favourite method of estimating the cost of painters' work was to glance over a house and out of one's experience assume that the job would require so many men for so many days, turn that into money at cost, and double it to cover materials, expenses, and profit, and there you had the amount of your tender.

Under modern competitive conditions such methods are too crude, and the only way to get close results is to measure up work and price in detail.

But if that which is necessary for estimating and cost keeping is to be at once the test of past prices and the basis of new ones, it now becomes necessary to keep cost in detail instead of in the lump. For purposes of comparison such cost keeping should follow, in its orderly arrangement, the same plan as the quantities did for the job in question. It also follows that as a building grows from foundation to roof so any system of cost keeping should be capable of growing exactly as the building grows, and to the same extent.

This implies the need for an amount of adaptability and flexibility, which one would expect to find best fulfilled by some specially devised card system, which would enable each contract to have its own complete set of cost cards built up, as it were, as the job progresses.

Upon the cards of such a system one would like to see set out, so that they could be read at a glance, the units of the quantities along with their prices as estimated, and, for comparison, their cost prices expressed in terms of labour, materials, transport, and on-cost. That is the kind of information that a cost system should place at the disposal of every builder; the information, as has been said, should grow as the work grows, so that the builder knows as he goes along how the work is coming out, and when the work is completed the system should provide a permanent and most valuable record of practical experience available for pricing future work.

It should be admitted at once that this conception is not easy of attainment; if it were it would have been introduced ere this.

Perhaps by pursuing our analysis further some indication of how to attain so desirable an end may be discerned.

(To be continued.)

TEMPORARY BUILDINGS IN RELATION TO BY-LAWS.

AT the annual general meeting of the Institution of Municipal Engineers, held in London on November 7, the following paper was read on "Temporary Buildings in Relation to By-Laws" by Mr. T. C. Barrslet, M.R.San.I.

"This short paper deals with those structures the external walls of which are not constructed (to use the familiar language of the Model By-laws) of "brick, stone, or other hard and incombustible material."

"The framers of the model series, issued in 1877, which still forms the basis of most of the regulations throughout the country, recognised the fact that certain exemptions were necessary, and expressly exempted such erections as plant-house, orchard-house, summer-house, poultry-house, or aviary, under somewhat hazy conditions. Now, most of us are not troubled about orchard-houses and aviaries, but the course of years has brought into existence a number of other excrescences which the well-meaning gentlemen of 1877 did not foresee. The bicycle brought the cycle shed, amateur photography dark-rooms, the motor-car private garages; while the open-air craze has brought outdoor sleeping sheds. Many local authorities have tried to keep pace with these modern developments in extending the scope of the exemptions; but I do not know of one sufficiently up to date to contemplate air-craft sheds.

True, the old model series does make provision for buildings not being dwelling-houses which are detached and at specified distances from other buildings or premises and not exceeding a certain cubic capacity. Such are allowed if covered externally with galvanised or sheet iron. This admits of workshops, temporary churches, chapels, and mission-rooms, and, as we are aware, has been largely taken advantage of. The stipulation as to iron covering was doubtless inspired by the fact that no other incombustible material was then in the market, and has led to the architectural monstrosities in galvanised iron which obtrude themselves even amidst the most rural surroundings.

Since the introduction of "Uralite" and similar incombustible sheets, which lend themselves to more architectural treatment, a number of local authorities have amended the regulations to admit of their use; but iron is generally rigidly insisted on. I have no brief for any of the alternative materials mentioned, but strongly hold the opinion that galvanised or sheet iron is a most unsuitable walling or roofing for any building, both on hygienic, architectural, and constructional grounds, and no by-laws should exist which enforce its use.

The complexity of modern life has brought into existence a class of buildings which, while not requiring the stability and durability of dwelling-houses, are sufficiently permanent to require something better than the usual timber studding, match-boarded within and lined with galvanised iron outside. Such erections as sports pavilions, clubrooms, and drill-halls are illustrative. If any part of such building is intended or adapted to be used either wholly or partly for human habitation, or as a place of habitual employment, in most districts it is not an exempted building, and the external walls have to be constructed in accordance with the by-laws.

It is well known that steel framing filled in with thin concrete or vitrified slabs is a far cheaper and more expeditious method of building such structures; yet the by-laws in force throughout the greater part of the country take no cognisance of this method of construction, though for the purposes named it is eminently suitable and satisfactory. A case in point has recently occurred in my own district, where it was desired to erect a golf pavilion and a clubroom half a mile away from any other building. But for one fact it would have been an exempted building, and could have been built in the usual galvanised iron style. That fact was that there were two caretakers' rooms, which it was held brought it within the by-laws. The architect was naturally averse to disfiguring the Surrey Hills by a hideous iron structure, and proposed steel framing filled in with "Frazzi" slabs. The by-laws did not admit of this, and there was a deadlock until the Gordian knot was cut by the building being licensed as temporary, with a liability on the part of the owner to remove it at six months' notice. As it was to cost £800, his hesitancy to sign such an agreement can be appreciated.

Fortunately, the Local Government Board have now awakened to the fact that brick, stone, and monolithic concrete are not the last words in wall construction, and have adapted a series of model by-laws to meet such cases as that referred to.

The Public Health Acts Amendment Act of 1907, sect. 27, wisely recognises the inevitableness of temporary buildings, and gives to local authorities a wide discretion with respect to them. The Act, however, is an adoptive one, so that there are large areas in which it is not in force, and it would have been advantageous if it had contained a definition of the term "temporary," as it is somewhat a misnomer when applied to buildings that are intended to stand for more than a generation.

Perhaps, however, the temporary buildings which give the surveyor the most trouble are those which are obviously temporary little wooden shanties on vacant plots of ground, small workshops in the rear of cottages, antiquated tramway-cars and omnibuses dumped in unsuspected places. Whether these come under the regulations or not is largely governed by what they adapted or intended to be used for. If a cottager puts a superannuated omnibus in his back garden and calls it a summer-house it is probably exempt, but if he uses it as a workshop it is contrary to the by-laws. From the fact that such things are put

in back gardens some time elapses before they come to the surveyor's notice, and if six months has elapsed he cannot take action under the by-laws.

It used generally to be thought that a building on wheels was under any circumstances exempt from building by-laws, and in my career many impositions of this nature have been attempted. If it were so it would obviously defeat the objects of all reasonable building regulations, and it now appears to be accepted that wheels have no effect in determining whether a building comes within the by-laws or not.

The main objections to the type of flimsy temporary buildings under consideration are:—

(1) Reduction of air space in the rear of houses.

(2) Danger from fire.

(3) Unsightliness and untidiness.

The first and second can be met by making retrospective the by-laws requiring a clear space of 15 ft. in the rear of all domestic buildings, as many authorities have done, and prohibiting all lean-to and sheds abutting on houses.

In many country districts the excrescences which in course of time grow up round a cottage often cover more space than the original structure. First, perhaps, a fuel shed is attached, followed by a greenhouse; then comes a nondescript structure, alleged to be a potting-shed, flanked by a chicken-run. An inspection a year or two after reveals a donkey kept in the fuel shed, the greenhouse transformed into a scullery, the potting-shed into a workshop, and the chicken-run serving as a lumber-room. For the purposes for which they were originally constructed such buildings as those described would probably be exempted from most building regulations, and the surveyor has little or no control over the uses to which they are subsequently put until they become structurally dangerous.

Perhaps the best remedy for these unsightly temporary structures is the frank recognition on the part of builders and designers of small houses—especially those in country districts—that the average householder requires, in addition to rooms for living and sleeping, covered accommodation for such of his possessions as cannot reasonably be kept in a house. It is exceedingly rare to see a small house built with any accommodation for such everyday articles of use as perambulators, bicycles, garden tools, etc.; even a coal or wood shed is often conspicuous by its absence. It should be part of the design of every cottage that adequate provision of this kind should be made.

During last year I made an inspection of a number of cottages at Letchworth, and many of the tenants bitterly complained that the regulations of the estate did not permit of their erecting the usual ramshackle outbuildings to which they were accustomed, and that the builders did not provide any suitable substitute for them. In some of the newer type of cottages the need had been recognised, though to a very slight extent.

It would add very little to the cost of a cottage to provide at least 100 sq. ft. of covered space in a safe vicinity, and thus remove the temptation tenants are always under to disfigure their premises with hideous and insanitary surroundings. It is generally the more satisfactory class of tenants with harmless hobbies who indulge in this sort of thing, and these are frequently in a state of veiled hostility to building regulations, under the impression that they are made for their special harassment.

On the whole, therefore, it would seem desirable to frame by-laws in such a manner as to admit, and even encourage, the building to dwellings of appurtenances which conduce to the comfort and convenience of the occupier, provided it can be done without detriment to health or undue damage from fire.

Previous to the Act of 1907 many local authorities, to meet apparent cases of hardship, had accepted the plan of yearly licences for buildings which did not comply with the requirements of the by-laws as to structure and thickness of external walls, with the condition attached that the building should be removed by the owner after a specified notice from the local authority. This is open to the objection that a local authority has no legal dispensing power in the matter of building regulations, and, further, that there is a grave doubt as to whether the conditions made under any such agreement could be enforced. It would be of interest to know if any member of the Institution could instance such powers being enforced in the case where a building, admittedly contrary to by-laws, had been allowed."

THE ASSOCIATION OF BUILDERS' FOREMEN AND CLERKS OF WORKS:

ANNUAL DINNER.

THE twentieth annual dinner of the Association of Builders' Foremen and Clerks of Works was held on Saturday last at the Holborn Restaurant. Mr. W. Nicholson (of Messrs. Nicholson & Sons, Ltd., of Leeds) was in the chair, supported by Messrs. H. V. Lanchester, F.R.I.B.A., P. B. Tubbs, F.R.I.B.A., H. W. Wills, F.R.I.B.A., T. Evans (President), and others.

After the loyal toasts had been honoured, the Chairman proposed the toast of the Builders' Foremen and Clerks of Works' Association, and in the course of his remarks said that he felt it to be an honour to be there as their Chairman that evening. He owed something to their Association, as some time ago he got two good foremen from them and had worked most amicably with them. The Association was instituted in 1894 as the Association of Builders' Foremen, but so many clerks of works joined the Association, and so many foremen became clerks of works, that it was decided to give the Association its present name. He was asked to make an appeal on behalf of the funds of the Association, which was doing a good work, having at present about 160 members and £2,000 in hand. These were satisfactory figures, and he thought they would all agree that this was an Association worth backing. It was a great pleasure to him to see foremen and clerks of works dining there together that evening, and he sincerely hoped those cordial relations would continue. One of the most important things in the building trade was that of apprenticeship, and he thought it would be a good thing to see if it were not possible to get an efficient body of young apprentices together in all branches of their trade, in order that they might get the very best of skilled labour for their work. A great deal was heard about education in these days, but, as far as the building trade was concerned, the man who had served a full apprenticeship made a far better craftsman and workman than one who depended on his books. Every man who had learnt a trade had learnt something that nothing could take from him except ill-health. The building trade had been in a very peculiar condition, the builder being one of those unfortunate tradespeople who did not always get paid for the goods he supplied, although that was often his own fault; but the cost of building had gone up considerably during the last few years, partly through legislation, for the Workmen's Compensation Act and the Insurance Act alone had increased the cost of building by the addition of 5 per cent. He asked that those present would support the object for which he had taken the chair that evening. The Association was a worthy one, worked by men who gave their services voluntarily, and who did their work well.

Mr. T. Evans, the President, in reply, said that he was in the interesting position of having been President of the Association at two annual dinners in one year. The Chairman had mentioned the objects of the Association, and all knew of the years of depression in the trade; but one fund had proved most useful, and that was the contingent fund, which had been much called upon. A most important feature of the Association was that discussions were held from time to time on matters of great importance, and he could not understand why so many young foremen did not join the Association which could be of so great use to them. They did not seem to consider the question of joining until they had gone past the age limit, which was forty-four. He had great hopes for the future of their Association; it had done a great deal in the past, and it was going to do a great deal more in the future.

Mr. H. V. Lanchester, in proposing the toast of the "Building Trades," said that he always had the greatest sympathy with builders, and thought they were a body of men who seemed to do a great deal of work for nothing. If there were no building trades, what would become of the architect? The architects made their living—a sort of a living—by what they could get, more or less, from their clients; but if builders were to go out of business, architects would have to retire—he would call it retire. The architect had to take the rough with the smooth, but the builder seemed to get all the rough and never get any of the smooth, and it had always seemed a puzzle to him as to how the builders made any money at all. He, however, had always worked most amicably with builders and their foremen and clerks of works, and it gave him much pleasure to propose the toast of the "Building Trades."

Mr. C. P. Roberts suitably replied for the builders, and Mr. H. Jenks then proposed the toast of the "Architects and Surveyors," and said that the many splendid buildings which one could find all over the country had arisen from the brain of the architect. They in the building trade were proud to carry out the designs and the ideas which originated from the architect. They all knew the surveyor; the architect gave his drawing to the surveyor who took out the quantities, these were then handed to the builder, who spent a good deal of time in looking through them to see what the surveyor had left out.

Mr. P. B. Tubbs, President of the Society of Architects, in replying, said that he appreciated the services of the foremen and clerks of works, as they were men whose skill the architects depended on in the carrying out of their designs. With reference to the question of subcontractors, most of those present knew that the subcontractor had come to stay, and he hoped that the foremen and clerks of works would work as harmoniously with the subcontractor as possible.

Mr. J. W. Sawyer then proposed the toast of the "Visitors," which was suitably replied to by Mr. T. Bogun, and the proceedings then terminated with the toast of the "Chairman," proposed by Mr. George Thomson, the Chairman responding in a few well-chosen words.

WAGES IN THE BUILDING TRADE.

BARNSLEY.—The joiners have given notice for an advance in wages of 1d. per hour (8½d. to 9½d.), as from May 1, 1914.

DEWSBURY.—The employers have received a demand from the labourers for an increase in wages of ½d. per hour (6½d. to 7d.), as from May 1, 1914.

HUDDERSFIELD.—Six months' notice of a demand for an increase in wages of 1d. per hour has been given by the masons (9½d. to 10½d.) and the labourers (6½d. to 7½d.).

HULL.—The painters have given notice of a demand for an advance in wages of 1½d. per hour (3½d. to 10d.).

MEXBOROUGH.—The bricklayers have given notice for an advance in wages of 1d. per hour (9d. to 10d.), to take effect on March 1, 1914.

NOTTINGHAM.—Six months' notice has been given by the bricklayers, slaters, and labourers for an advance in wages of 1d. per hour and various alterations in the present working rules. The existing rate for bricklayers is 9½d., slaters 9d., and labourers 7d.

SCARBOROUGH.—The men engaged in all branches of the trade in this district have given notice of a demand for an advance in wages of 1d. per hour.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ABERDEEN.—A big tramway scheme is in prospect, involving the provision of new office accommodation, car sheds, and repair shops. The School Board are considering plans for the extension of the Ferryhill School, at an estimated cost of £13,000 or £14,000. The L.G.B. have approved the plans for the proposed extension of the west ward at Summerfield Hospital, prepared by Messrs. Jenkins & Marr, C.E.

Aberystwyth.—The R.D.C. have approved plans for house at Penygarn for Mr. W. Evans; house at Llanfihangel for Mr. T. Oliver; and stable and coachhouse for Mr. W. M. Davies.

Ardrossan.—The T.C. have decided to purchase from Lord Eglinton the buildings formerly used as a bathhouse and the adjoining ground for constructing an open-air swimming pond and providing an installation of hot sea-water baths. The estimated cost of the pond is £1,500, and of the baths £650.

Atherstone.—Plans passed by R.D.C.:—Four houses, Birchmoor-road, Polesworth, for Mr. R. Bassett.

Barnet.—The U.D.C. have passed plans for drainage for Messrs. McMullen & Son in connection with eight houses proposed to be erected on their estate at Underhill. The L.G.B. have held an inquiry respecting an application by the U.D.C. for sanction to borrow £4,400 for the erection of Council offices, and the provision of a public lavatory on the site of the old Barnet brewery in Wood-street.

Barrowford.—A L.G.B. inquiry has been held into the application of the U.D.C. for sanction

* See also our list of Competitions, Contracts, etc., on page 595.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur:—

——	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Newcastle	10	10	10	10	9½	10	9	6½	6½	6½
Sunderland	9½	10	9½	9½	9½	9	9	6½	6½	6½
Darlington	9	9½	9	9½	9½	9	7½	6½	6½	6½
Stockton-on-Tees	9	10	9½	10	9½	9	8½	7	6½	7½
Bradford	9½	9½	9	9	9½	9	8½	6½	6½	6½
Halifax	9½	9	8½	8½	8½	9	8½	6½	6½	6½
Hull	9½	9½	9½	9½	9½	9½	8	7	7	7
Leeds	10	10	9½	9½	9	9½	8	7	7	7
Sheffield	10	9½	9½	9½	9½	9½	8	6½	6½	6½
York	9	9½	8½	9½	9½	8½	7½	6½	6½	6½
London	11½	11½	11½	11½	—	1s.	9	7½	7½	7½
Brighton	8-9	8	8	—	—	—	—	—	—	—
Portsmouth	9	9	9	9	—	8	7½	6½	6½	6½
Southampton	8½	9½	9½	8	—	9½	8½	6½	6½	6½
Maidstone	9	9	9	—	—	9	7½	5½	5½	5½
Bristol	9½	9½	9½	9½	—	9½	9	6½	6½	6½
Plymouth	8½	8½	8½	8½	—	8½	7½	5½	5½	5½
Bath	7½	7½	8	8	7½	7½	7	5-5½	5-5½	5-5½
Cheltenham	8½	8½	8½	8½	—	8½	7½	5½	5½	5½
Exeter	8	8	7½	7½	7½	7½	6½	5	5	5
Gloucester	7½	8½	8½	7½	7½	8½	7½	5½	5½	5½
Hereford	7½	8	7½	8	7½	7	6½	5	5	5
Stroud	7	7	7	7	7	7	6½	4½	4½	4½
Blackburn	10	10	9½	9	9½	9½	9½	6½	7	7
Bolton	10	10½	10	10½	10	9	9	—	—	—
Liverpool	11	11	11	10	10	10	9½	6½	6½	6½
Manchester	10	10½	10½	10½	9	10	9½	6½	6½	7½
Oldham	10	10½	10	9½	9	10	9½	6	7	7½
Preston	9½	10	9½	9	8½	9	8½	5½	6	6
Birmingham	10	10	10	10½	9	10½	9	7	6	7
Derby	9½	9½	9	9	9	9	8	6	7	6½
Leicester	9½	9½	9½	10½	9	9½	8	7	7	7½
Nottingham	10	9½	9½	10	9	9½	9	7	7	7½
Norwich	8	8	8	8	8	8	6½	5	5	5
Cambridge	9	8½	8½	9	8	9	7	6	6	6
Oxford	9	8	8½	8½	8	8½	7	5½	5½	5½
Southend	9	9	9	9	Piece-work	9	7½	6	6	6
St. Albans	9	9	9	10	8½	9	8	6	6	6
Grays	—	10	10	—	—	—	8½	7	7	7
Cardiff	9½	9½	9½	9½	9½	9½	8½	6½	6½	6½
Swansea	9	9	9	9	8½	9	8½	6	6	6
Newport	9	9	9	9	8½	8½	8½	6	6	6
Chatham	8	9	8½	9	9	8½	7	5½	5½	5½
Birkenhead	11	11	11	10½	10	9½	9½	6½	6½	6½

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

to borrow £3,400 for works of sewage disposal at Wheatley Carr.

Barry.—The tender of Messrs. Ruckley & Sons, Cadoxton, for the erection of a new manual instruction school at Cadoxton has been accepted.

Beckingham.—Plans passed for one house, plot No. 10, Manor-way, Messrs. J. Overall & Son; three shops and houses, High-street, Mr. A. Sykes.

Billericay.—The R.D.C. have instructed Messrs. Willcox & Raikes to prepare plans and specification for works of surface-water drainage in Roundwood-avenue and Mount-avenue, Hutton.

Bilston.—A fund of £1,800 is being raised in order to restore the outer fabric of St. Luke's Church, Bilston, and to lengthen the chancel.

Birmingham.—The Corporation give notice of their intention to sanction the erection, on land belonging to the Sutton Estate, situate at Washwood Heath, of eight blocks of two-story tenement buildings, each block containing eight self-contained tenement dwellings.

Blackpool.—The T.C. have decided to complete the scheme of promenade improvement at the northern extremity of the borough by an expenditure of about £6,000. On the cliffs two walks will be made, gardens laid out, and ornamental shelters built. Plans by Mr. F. H. Gorst, architect, for extensive alterations at the Clifton Arms Hotel have been passed. A new arcade is to be constructed, running through from the Promenade to Market-street, on the site of the two shops adjoining the south side of the hotel. Above will be a number of additional bedrooms, while lock-up shops will line the arcade on either side.

Bristol.—The Underwood Typewriting Company have taken the whole of the premises, 57, Victoria-street, which will be entirely remodelled by Messrs. E. T Parker & Co., St. Stephen-street.

Broadstairs.—Plans passed by U.D.C.:—Addition to Oakfield, The Vale, for Mr. G. Heath; four houses, Deacon-road, St Peter's, for Mr. A. H. Coutt; detached house, Grange-road, St. Peter's, for Mr. F. K. Dodd.

Bromley.—Plans passed by T.C.:—Mr. P. Coads, additions, Rossmore, Cambridge-road; Mr. A. J. Bartlett, motor-house, Park-avenue; Mr. C. Tyler, eight houses, Haywood-road.

Bromsgrove.—Plans passed:—Conversion of old building into lock-up shops at Hagley for Mr. Barker; and house at Field-lane, Clent, for Mr. L. Davis.

Buckie.—The T.C. have signed the contract for the second extension of Buckie Harbour with Messrs. Charles Brand & Sons, contractors, Glasgow. The contract includes £33,080 for the north-west pier extension, £6,344 for the east jetty, £14,450 for excavating the inner harbour, £4,576 for the south quay and roadway, £4,945 for the east quay and roadway, £6,700 for slip-way for steam drifters, £1,118 for jetty extension, £1,091 for east pier extension, and £7,550 for a new embankment in West Bay. Three and a half years are given to finish the work.

Camborne.—Plans passed for five-roomed house at South Roskear-terrace for Mr. J. Hockin.

Cardiff.—The T.C. has passed an estimate of £17,500 for the new fire-station.

Cheadle.—Plans passed by U.D.C. for garage for Mr. T. Wright, in Moss-lane; a draft block plan from Mr. W. Scholes, of Gatley, for the building of a shop and house, etc., at Gatley-road has been disapproved.

Chertsey.—The L.G.B. have held an inquiry into the application of the R.D.C. for sanction to a loan of £9,886 for purposes of sewerage and sewage disposal in the parishes of Byfleet and Pyrford, including works in the parish of Wisley.

Chippenham.—Plans passed of additions to a house at the Ridge, Kington Langley, for Miss Ashe; and of two new cottages at Biddestone for Lord Islington.

Chiswick.—The L.G.B. have held an inquiry into the application by the U.D.C. for sanction to borrow £5,516 for the improvement of the approach road on the east side of Kew Bridge.

Church.—Plans have been approved by the U.D.C. for a new Council school, submitted by the County Architect.

Colwyn Bay.—The L.G.B. have held an inquiry in reference to an application by the U.D.C. for power to borrow £1,844 for the widening and improvement of Brompton-avenue and Prince's-drive.

Coventry.—The L.G.B. have held an inquiry into the application of the Corporation for sanction to borrow £3,500 for the laying-out as a depôt of the premises of the Coventry Brewery, Leicester-row, and £365 for the widening and improvement of Abbot's-lane.

Croston.—The L.G.B. have held an inquiry into the application of the U.D.C. to borrow £3,085 for the purpose of sewering the Grape-lane and Drinkhouse-lane districts.

Derby.—The T.C. are applying to the L.G.B. to borrow £3,000 for extensions at the Asylum.

Devizes.—The Wilts C.C. have approved of an estimate of £30,000 for the erection of a new block at the Asylum.

Devonport.—The L.G.B. have before them an application by the T.C. for sanction to borrow £105,000 for the erection of a Town Hall and Municipal buildings, police-station, etc.

Dunfermline.—Schedules have been issued by the North British Railway Company for extensive alterations at Dunfermline Upper Station. It is calculated that the extensions will take at least two years to complete, and that they will cost the company little short of £100,000.

Eckington.—The justices have granted a licence to Mr. Frank Poile to erect a picture-house in the Market-place.

Falkirk.—The Dean of Guild Court has granted permission to the Falkirk Picture House, Ltd., 18, Brandon-street, Motherwell, to take down existing buildings and erect new buildings, consisting of a picture-house and shops on a piece of ground forming the site of an old brewery between High-street and Newmarket-street, Falkirk.

Featherstone.—The L.G.B. have held an inquiry into the application of the U.D.C. to borrow £5,806 for private street improvement works in North Featherstone-lane district.

Fleetwood.—Plans have been passed for two houses in Abercrombie-road for Mr. F. Roberts; and for three houses in Wolsley-road for Mr. W. Threlfall.

Foleshill.—A plan for a house for Mr. T. Harris in King George's-avenue, Foleshill, has been approved by the R.D.C. Sanction to a loan of £560 for the improvement in Holbrooks-lane and Bedlam-lane has been received from the L.G.B.

Grantham.—Plans passed by T.C.:—Two houses, Bridge End-road, Messrs. Farmer & Lawson; new washhouses, Witham-place, Mrs. Beeson.

Heath.—The U.D.C. have approved of plans for a picture-house at Heath Town.

High Wycombe.—Plans passed:—Motor-house, West Wycombe-road, for Mr. W. Keen; two houses, Cedar-terrace, for Mr. A. W. Nash.

Hinckley.—Plans passed for two houses in Mount-road for Mr. E. Bloxham.

Hinderwell.—The U.D.C. have approved plans of semi-detached villas, proposed to be erected at Runswick Bank Top, for Capt. F. W. Codling, Staithes; and of Palmers' Memorial Hospital, to be erected at Staithes Lane-end, for the Grinkle Miners' Hospital.

Holborn.—The Council of the Academy of Dramatic Art have secured a site in Malet-street, Bloomsbury, on which it is proposed to erect a theatre for the students.

Horsham.—The Building Sub-Committee of the West Sussex E.C. have approved preliminary sketch plans for a Council school in Oxford-road.

Kingston-on-Thames.—It is intended to erect a Wesleyan lecture-hall on the land at the rear of the Eden-street Wesleyan Church.

Lancaster.—Plans have been approved by the R.D.C. of a bungalow for Miss Dawson, at Bolton-le-Sands, and for a new parish room at Cockerham.

Leek.—The L.G.B. have communicated with the R.D.C. sanctioning a loan of £6,250 for sewage works at Endon, for which Messrs. Willcox & Raikes are the engineers.

Levenshulme.—The Baths Committee of the Manchester Corporation have decided to instruct the City Architect to proceed with plans for the erection of a swimming-bath and public wash-house. The new baths will cost not more than £13,500, against the £10,000 at first suggested. The site is in Barlow-road, near the Carnegie Free Library.

Littlehampton.—The U.D.C. have forwarded plans for the proposed recreation-ground to the L.G.B. for approval. It is proposed to erect a pavilion. The Architect of the West Sussex E.C. has been instructed to bring up a report for adding to the East-street School.

Llandudno.—The L.G.B. have held an inquiry with reference to the application of the U.D.C. for power to borrow £1,400 for the purpose of extending the promenade from Craigydon towards the Little Orme's Head.

London County Council.—The Housing of the Working Classes Committee propose to develop a small portion of the White Hart-lane Estate on garden city lines, and to erect seventy-nine cottages, at a cost of £23,468, inclusive of roads. The Building Act Committee have approved the following plans under their powers under the London Building Act:—Erection of two storage tanks at Clement Talbot Motor Works, Berlby-road, Kensington, on the application of Mr. W. T. Walker, for Clement Talbot, Ltd.; addition to 19, Grove End-road, St. John's Wood, on application of Mr. H. W. Binns, for Mr. D. J. Doneux; bay windows, etc., to houses on both sides of Ashworth-road, Maida Vale, on the application of Mr. H. A. Welch, for Messrs. Walters & Co.; shop front at 44, Cranbourn-street, on the application of Messrs. Litsica, Marx, & Co.; additions to premises of Messrs. Potter & Clarke, Ltd., Bell-lane, Whitechapel, on the application of Messrs. Still, Wheat, & Luker; erection of one-story building in Lady-well-road, Lewisham, on the application of Mr. A. L. Guy, for the Vicar of St. Mary's Church; erection of metal and glass screen in the covered courtway of Savoy Hotel, Strand, on the application of Messrs. Collcutt, Hamp, & Tilden; addition to No. 2, James-buildings, Hutchison-street, Aldgate, on the application of Mr. E. C. Gough, for Mr. J. Blum; addition to No. 6, Grosvenor-street, on the application of Messrs. Hammond & Burgoine, for Dr. Bruce Porter; erection of building on site on north side of Commercial-road East, Stepney, on application of Mr. G. J. Clarke; erection of building to abut on Regency, Douglas, and Rampayne streets, Westminster, on the application of Mr. F. Warman, for the Ragged School Union; erection of infants' hospital, Alfred-street, Westminster, on the application of Messrs. Read & Macdonald; erection of buildings over Black Eagle-street, for Messrs. Truman, Hanbury, Buxton, & Co.

Malvern.—The Managers of the Malvern C.E. School have submitted plans for enlarging the school premises to the Worcestershire E.C. The plans, which provide for the accommodation of 212 mixed and 110 infants, have been forwarded to the Board of Education.

Monmouthshire.—The consent of the L.G.B. has been obtained to the raising of the following loans by the E.C.:—£500 for an approach road, etc., in connection with Fleur-de-List School; and Rhiw-Syr-Dafydd School, £675, for additional land; £3,825, extensions, and £245, furniture and fittings.

Newry.—Plans are to be prepared for laying down filter beds and enlarging the reservoir to improve the water supply.

Norwich.—The T.C. have adopted a scheme to demolish all the property in the Rayner's-yard area, and substitute a number of tenements elsewhere, at an estimated total cost of £9,000.

Nuneaton.—The L.G.B. have held an inquiry into the application of the T.C. to borrow £8,250 for the purchase of a portion of the Newdegate Arms Hotel site for the purpose of effecting a public improvement, £450 for surface-water drainage, and £1,200 for alterations at Hartshill sewage works.

Oldbury.—The E.C. have decided to purchase 2¼ acres of land at Thimble Hill-lane on which to erect a school.

Paddington.—The B.C. have approved of a scheme, involving an expenditure of over £90,000, for the erection of a central baths establishment on the site of The Lodge, Porchester-road, Bayswater, and branch baths and washhouses at Hallpark and the Clarendon-street area. The B.C. have decided to reconstruct the Ranelagh-road footbridge in ferro-concrete, at an estimated cost of £2,380.

Paignton.—The Water Engineer has been instructed to prepare plans for laying the necessary mains in the roads on the Preston Estate, which are being opened up by Mr. Paris Singer, in order that application may be made to the L.G.B. to sanction a loan for the work. The L.G.B. have sanctioned the application of the U.D.C. of loans of £1,340 for the widening of the Torquay main road at Hollacombe and £270 for a public convenience on the Green.

Penshaw.—The Houghton-le-Spring R.D.C. have approved of a garden city scheme for the Lambton and Hetton Collieries, Ltd. It is the intention of the company to take down all the houses at New Penshaw and rebuild seventy-nine of the most modern and up-to-date houses, each with a separate garden in front, with a depth of at least 40 ft., and the provision of a recreation-ground, covering about 2 acres, which is to be enclosed with a belt of trees. The houses will be built in six rows and form the three sides of a square, one end of which will be open, the recreation-ground forming the centre of the garden city. Each house will have a large kitchen, scullery, pantry, and bathroom, with hot and cold water on the ground floor, and two large and one small bedroom above. Some of the dwellings will front on to the new road at present being formed by the District Council between New Penshaw and Coxgreen.

Peterborough.—Plans have been passed for alterations at the Broadway Board-room, showing new shops and offices in front, for Mr. G. C. W. Fitzwilliam.

Pontypridd.—The B.G. are seeking to acquire a site of 15 acres on which to erect an infirmary.

Purleigh.—The work of repairing the tower of the parish church is shortly to be commenced, under the advice of the Society for the Protection of Ancient Buildings.

Redditch.—The L.G.B. have held an inquiry into the application by the Council for sanction to borrow the sum of £6,840 for the erection of working-class dwellings, in pursuance of a scheme adopted some months ago by the local authority.

Rugby.—The R.D.C. have passed a plan for a priest's house at Bourton Hall, for Mr. J. F. Shaw.

Shoeburyness.—The Rochford Hundred Education Sub-Committee propose erecting offices on the allotment ground near the Richmond-avenue School.

Southampton.—The B.G. have decided to erect a new building to accommodate 150 boys, and are inquiring from the L.G.B. as to plans of similar buildings, and cost per bed.

Stanley.—Plans passed by U.D.C.:—Two dwelling-houses, Council-street, Stanley, for Mr. J. C. Birtley; amended block plan of building sites, Charlotte-street, South Moor, for Mr. N. B. Bainbridge; twenty dwelling-houses, Charlotte-street, South Moor, for Mr. N. B. Bainbridge.

Stoke Newington.—The B.C. have adopted a scheme for pulling down and rebuilding Nos. 42 and 44, Milton-road, and providing public washhouses, dwelling-rooms, storage, and purchasing and fixing the necessary plant, at an estimated cost of £1,900.

Swansea.—The Housing Committee have decided that the model houses, which are to be erected at the garden city before the Council commits itself to the big and complete housing scheme on Town-hill, shall be erected, not by contract, but by direct administration, and that the costs shall be kept private so as not to influence the subsequent tenders.

Talgarth.—The mansion purchased by the Welsh National Memorial Committee for a sanatorium has been opened, and new buildings, specially designed for open-air treatment of phthisis, will be erected shortly in front of the present building, to contain 250 beds.

Tring.—Plans passed:—Additions to cowhouses at Longcroft Farm for Lord Rothschild, and twelve cottages, also for Lord Rothschild.

Woking.—Plans passed by U.D.C.:—Mr. A. P. Riley, house, Heath-road, Bridley; Mr. C. H. Hill, house, Bury-lane, Bridley; Co-operative Society, four pairs of cottages, Horsell; Major Holbourn, house, Goldsworth-road; Mrs. G. Harrison, house, Salisbury-road, Cross-lanes; Sir H. Sturmy Cave, garage and workshop, Onslow-crescent, Maybury Common.

Worcester.—The plans for the new school at Broadway have been approved by the Board of Education.

Wrotham.—Plans passed by U.D.C.:—New electric theatre at Borough Green for Messrs. Gilbert & Sons, of Tonbridge; house and printing works for Mr. R. T. Barkaway, at Maidstone-road, Borough Green; alteration to shop at London-road for Mr. H. Stanley.

Yarmouth.—Plans passed by T.C.:—House, Clyde-avenue, for Mr. T. H. Juby; four houses, Manor-road, Gorleston, Mr. H. R. Middleton; alterations to house, 76, Southtown, Mr. H. M. Bellows; additions to house, Stradbroke-road, Gorleston, Mr. F. A. Osborne; cart shelter, etc., Belvidere-road, Mr. Wm. Docwra; timber workers, Southtown, Messrs. Palgrave Brown & Son.

GENERAL BUILDING NEWS.

SHOP, ETC., ALDGATE, E.

Business premises are being built at the corner of Aldgate High-street and Mansell-street. Mr. Stanley H. Burdwood, Licentiate R.I.B.A., York-place, Baker-street, is the architect, and the builders are Messrs. F. Pitcher, Ltd., Marylebone-road. The steelwork will be by the Aston Construction Company, Hoxton, N., and the glazed stoneware, tiles, etc., by Messrs. Carter & Co., Ltd., Poole.

THE MARY CURZON HOSTEL FOR WOMEN.

This building, erected from the designs of Messrs. Lovegrove & Papworth, 374-378, Old-street, E.C., as a model common lodging-house for women by the Duchess of Marlborough and Earl Curzon of Kedleston, in memory of the late Lady Curzon, was opened by her Majesty Queen Alexandra on the 22nd inst. The building is in King's Cross-road, close to King's Cross, and consists of three upper floors of bedrooms and cubicles, apartments for the matron, storerooms, and linen cupboards. The entrance floor, raised slightly above pavement level, contains the office, the large general kitchen, and dining-rooms, the general scullery, the "dayroom," which serves as a sitting-room, and lavatories and water-closets. In the basement are bathrooms, steel locker-room, laundry, changing and drying rooms, the heating chamber, and the bundle-room. A feature of the lavatory accommodation is the provision of a number of enclosed "cabinets," containing a footbath and lavatory basin. The building is constructed of fire-resisting materials throughout, all the floors are covered with jointless flooring, and the walls up to first-floor level are lined with glazed bricks or tiles, above with plaster painted with a dull stippled finish. The general contractors were Messrs. John Grover & Son, Wilton Works, New North-road; steelwork by the Aston Construction Company; lifts by Messrs. J. E. Lucas & Son; heating and stoves by Messrs. Rosser & Russell, Teale Fireplace Company, and Messrs. Clark, Hunt; sanitary goods by Messrs. Nicholls & Clarke.

TRADE NEWS.

Boyle's latest patent "air-pump" ventilators have been applied to Trinity Mission Hall, Stratford, E. The "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air-inlets, has been applied to the Picture Theatre, Kirkby-in-Ashfield.

The Bishop Auckland Tindle-crescent Hospital is being supplied with Shorland's double-fronted patent Manchester stoves with descending smoke flues patent Manchester grates, patent exhaust roof ventilators, and special inlet ventilators, by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester. The Court House, Chesterfield, is being ventilated by means of their patent exhaust roof ventilators. The Meifod National Schools are being supplied with the firm's warm-air ventilating patent Manchester stoves.

His Majesty's Office of Works are using "Pudlo," the powder which makes cement waterproof, for their cement rendering on the Forest Hil sorting-office. The architect for the extension of the Epileptic Hospital for Manchester and District at Whalley, near Accrington, has specified "Pudlo" to be used with the cement on the rough-cast walls of the institution.

TRADE CATALOGUES.

We have received from the Well Fire and Foundry Company, Ltd., of 15, Berners-street, London, W., an illustrated list of their latest designs of Well fires. These fires are certainly among the most successful of the hearth fire family, and during the period in which they have been in use they have gained a wide and increasing popularity. The designs, which cover the whole gamut of the styles now in vogue, are good, though why the "Rokeby" and "Carisbrooke" fires should be so named is obscure. The firm have a large assortment of old marble and other chimney-pieces always on show.

The National Radiator Company, Ltd., of 439 and 441, Oxford-street, London, W., send us their latest catalogue, a veritable encyclopædia of boilers, radiators, and accessories. Among the firm's new productions we notice the "Ideal" detachable steel baffle plates for ventilating radiators, the cost of which is much below that of cast-iron plates; the "Vento" cast-iron heater, designed to take the place of pipe coils for heating, ventilating, and drying work, in conjunction with fans; and the "Ideal" radiator tops, which include a "humidifying" water-pan top. A new type of boiler for water or steam heating is being placed on the market in the Ideal No. 3, "F" series, boilers; all the exposed surfaces are covered with insulated steel jackets, and a top firing door is supplied if required. This series will shortly be supplied in a range of sizes with heating surface varying from upwards of 360 sq. ft. down to 10 sq. ft. Other novelties include galvanised storage cylinder with Ideal wall radiators in place of wrought-iron or copper coils, and the Ideal concealed regulating valve for radiators. The catalogue is of a handy pocket size, and forms a complete guide to the wide variety of boilers and radiators made and sold by the National Radiator Company.

We have received from Tredegars, decorators, of 53, Victoria-street, London, S.W., an excellently illustrated booklet, with photographs of many examples of internal decoration recently executed by them. Tredegars also supply electric-light fittings, baths, and heating apparatus, and are prepared to undertake structural alterations of all kinds.

THE LONDON MASTER BUILDERS' ASSOCIATION.

THE ordinary monthly meeting of the Council was held on Thursday, November 20, at Koh-i-noor House, Kingsway, W.C., when Mr. Walter Lawrence, jun., President, occupied the chair, and there was a large attendance of members.

An important discussion took place upon the prevalence of strikes against the employment of non-union labour, and a resolution was carried dealing with the point, and instructions issued in accordance therewith, details of which will be shortly placed in the hands of all members.

A uniform plan of dealing with a standard rate of charges for daywork was carefully considered and referred to a Special Practice Committee to report thereon.

The question as to Painters' Rules was again discussed, and the suggestion put forward by the Society of Operative House and Ship Painters that the Rules agreed between it and the London Association of Master Decorators be adopted was unanimously rejected.

Reports of the Special Rules Committee, Law and Parliamentary Committee, and Conciliation Boards were received and adopted.

Several new members were elected, and nominations for membership received.

Correspondence relating to trade matters was read, and instructions given in connection therewith.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. Cyril Cobb, Chairman, presiding.

Loans.—The Finance Committee recommended, and it was agreed to make loans to Borough Councils as follows:—Paddington £2,380 for reconstruction of footbridge; Stepney, £1,548 for street improvements and £7,180 for electricity undertaking; and Wandsworth, £4,455 for street improvements.

Ruskin Park.—It is proposed to invite tenders for the erection of urinals and a dressing-room at the Ruskin Park extension.

New County Hall.—The Chairman of the Establishment Committee, in reply to a question, stated that Messrs. Wall's contract for the erection of the substructure of the New County Hall had not yet been completed, but sections A and B had now been vacated in such a way that the contractors for the superstructure were now proceeding with those sections. Five hundred and ten were at present employed on the ground.

Procedure.—The greater part of the meeting of the Council was occupied in discussing the proposed new scheme of procedure.

OBITUARY.

Mr. F. T. Cutbill.

We regret to have to announce the death of Mr. Frederick Thomas Cutbill, which took place on the 22nd inst. at his residence at Beckenham, at the age of seventy-eight. Mr. Cutbill was a director of Claridge's Patent Asphalte Coupany, Ltd., for thirty-nine years, ever since its incorporation as a limited company.

THE CONCRETE INSTITUTE:
PRESIDENTIAL ADDRESS.

THE thirty-ninth ordinary general meeting of the Concrete Institute was held on Thursday, November 13, at Denison House, 296, Vauxhall Bridge-road, Westminster, S.W., when the Presidential Address was delivered by Mr. E. P. Wells, J.P. In the course of his address the President said:—

"The Institute is steadily growing, and a distinct spurt has been made since its scope was enlarged to include structural engineering generally. In the previous Presidential Address the hope was expressed that the Institute's subtitle, reading "An Institution for Structural Engineers, Architects, etc.," might be merged eventually into the title, it being suggested that the words, "Institution of Structural Engineers," be added permanently to the main title.

The programme for the session shows an extension in this direction of dealing with structural engineering, and it becomes plain that this is the right policy to pursue. On such lines the Institute can develop and would never have occasion to look back.

One of the directions in which the general membership can directly help the Institute in its development is by enlarging the library which is now in process of formation, either by gifts in money or in kind, it being hoped that in due course we shall be able to establish a library and reading-room open to all members at all ordinary hours.

Cement.

I wish to direct your particular attention to the absolute necessity of keeping a more careful watch on the cement than has hitherto been the case, especially as regards its storage on the site, though it is necessary also to be assured of its quality before it reaches the sito of the works, both as it leaves the manufacturers and goes to the agent and as it leaves the agent for the consumer.

It has come to my knowledge during the past year that in several cases where it was necessary that cement should be of an excellent quality it had been "air slaked" to such an extent that it was next door to being absolutely useless for reinforced-concrete work, though it might perhaps have done for foundations of cheap structures, where any great resistance to crushing is unnecessary, and where rapid increase in strength is not required. It is strange that an air-slaked cement never approaches the strength of a cement which has been gauged and kept in water for, say, any period up to a year, and has then been dried and reground and used for making concrete. With the former the strength is almost *nil*, but the latter sometimes nearly approaches the strength of the original cement. Of course, if the old gauged cement be heated until it is red, then the same strength may be obtained from it as from the original specimen, but I would sooner have a cement on the site that had been ground to flour, from old gauged neat briquettes, than I would have a cement which had been air-slaked, as by becoming caked in the sacks and being afterwards rubbed through a sieve. I speak from knowledge gained from experiments and from experience in practice.

There is another peculiarity which is exhibited by excessively air-slaked cement over what I may call proper cement, namely, that when concrete is made therewith it becomes very hygroscopic, and no matter what its age is it will always exhibit this defect. Moreover concrete made with this air-slaked cement will take the colour of the aggregate, and will, as a rule, throw off a very peculiar odour. The concrete made therewith will be very low in crushing strength and in all other directions, and is really absolutely valueless for reinforced work. A case happened with some work I designed about five years ago. It was a raft for a school. One truck-load of cement appeared to be good, yet when made into concrete after a lapse of three weeks was almost in the same condition as when laid, only that the moisture had largely evaporated. After this raft had been laid the contractors left the work, and the defect was only discovered when they returned to continue their work. The whole of the remainder of the work, which had been carried out by the same firm with the same aggregate but a different freight of cement, was good. The only conclusion I could come to was that this particular cement had been kept in store for so many years that it had become inert, or else that it was the sweepings of a cement store which had become hydrated and ground up by constantly treading on it, so that, being thus pulverised, it was thought still to be a legitimate cement.

Therefore I recommend that, wherever possible, the cement manufacturer should state when the clinker was ground, how long it has been in stock before being bagged, and that when tests are sent with the several consignments that they have been made from the cement that has been sent and not from the cement from another portion of the store, which may not have been ground at the same time as the consignment. This recommendation applies to cement when sent direct from the manufacturers to consumer. When, however, the manufacturers send the cement to agents, then the conditions should be made much more stringent, because storage in an agent's store may do, and often does, grievous harm to a cement which, when originally received, may have been all that could be desired. No manufacturer should permit any agent to sell his products unless he is satisfied that the store in which it is kept is so constructed that the cement will be stored in such a manner that no possible chance of injury is likely to take place to it. Most people have very hazy ideas as to how cement should be stored; they still imagine that it should be laid on floors in layers not more than 12 in. thick, turned every third day, and so on, and not used for twenty-eight days; also that the store should be well ventilated, etc. It they would carry out this procedure with a finely-ground cement and have an analysis made after twenty-eight days' aeration, they would be rather surprised at the loss in lime contents and the amount of moisture that the cement has absorbed, while, if crushing tests were made before and after aeration, they would have a practical demonstration of how much loss there was in the compressive resistance.

So much I would remark of the manufacturer and his agent. I now have a word to say about contractors and builders, who very often think that all that is necessary is to lay a few boards on the ground, pile the cement thereon in sacks, and then cover over with a tarpaulin, the more wind that blows on the same the better it being, as thereby the cement will be aerated and made sound. True, it will be sound in that it will surely not show expansion or contraction, but neither will it be any good whatever if it be kept long enough in such a situation before it be used. The cement must be carefully stored, and, whenever possible, it should be turned out of the sacks into air-tight bins, where it will keep for many years so long as the air is excluded. The only alternative is that cement should be brought on to the works in casks if it is thought that some considerable time may elapse before it is required to be used. Cement stored in casks when they are well made and lined with paper will keep for years, and the loss in lime contents if kept for two years or more will not be more than 2 per cent., and this will only reduce the crushing strength about 10 per cent.

I am calling special attention to storage in order to save trouble, not only for the manufacturer, his agents, and the contractors, but also indirectly for the engineer, architect, and proprietor. Where the engineer knows that the cement is A1 there need be no fear but that the work will turn out well; he may sleep in peace, and no tests of the completed structure will be necessary, but if the concrete should be inferior, then no addition of steel reinforcement in tension is any good. If failure takes place owing to weakness in compression, all the theory and mathematics imparted into the design of reinforced concrete will be of no avail; but if the concrete is good, even 50 per cent. of the steel may be left out accidentally without damage resulting. The exercise of a little common sense in the design and execution of reinforced-concrete construction combined with practical knowledge and experience is better than oceans of theory and reams of mathematical calculations to secure refinements in the amount of steel, when our deductions, after all, are only empirical owing to the fact that the concrete is a material which increases with age, and does not, like steel, remain a constant.

In addition to watching the cement, a watch should be set on the aggregates, more especially upon the sand. At the present time on the south and east coasts ballast and sand dredged from the estuary of the Thames is almost invariably used. It seems, however, to be getting very much finer, and if any excess be used the crushing strengths up to periods of three months will be very considerably lowered, though after a lapse of twelve months or more the concrete will gradually recover much of its early loss. Early strength is, however, required, so that for ordinary work an excess of sand is undesirable, unless it be in the case of tanks, though in that event more cement should be added.

Contraction Cracks.

Many of us have been troubled for many years past by the unsightly contraction cracks that take place in reinforced and other forms of concrete construction, and so far no remedy has been found to stop what I may call the natural law of contraction during hardening and ageing. Where the concrete is subjected to variations of temperature on both sides, cracks must develop, but where concrete is subject to normal conditions I have been promised that some experiments will be made on definite lines to see whether it is not possible to stop this cracking to a large extent. If it is reduced to, say, only 25 per cent. of what is now common, then I think that reinforcing will get over the difficulty to a large extent. Should the experiments be satisfactory, then the results will be given to this Institute.

Reinforced Concrete in the Colonies.

A large amount of reinforced concrete has been employed in our Colonies, notably in New Zealand, where some of the constructions have been on a large scale. This, I think, is somewhat strange when we remember that timber is so plentiful there. Concrete would hardly have been substituted unless there had been some very good reason, and I imagine that where timber has been used for sea works that the dreaded *Teredo navalis* has eaten into it so rapidly that, even though wood be fairly cheap and wages and other materials be costly, the expense of renewals is so frequent that it becomes much more economical to construct once and for all with the more expensive material, for it will more than pay in the long run, even though the capital cost is greater and the interest and redemption much more, while there is also a decided saving by the absence of maintenance charges other than damage caused by accidental blows and shocks. The risk of loss by fire is likewise eliminated. I see by the New Zealand papers that the cement works in that country are on short time at the present and that the amount of work being constructed is small. I believe this is due principally to financial stress, the imports being in excess of exports, so that no excess is left with which to carry out public improvements. Our weather is stated to almost invariably follow in the wake of that experienced in New Zealand, but if we follow New Zealand financially, then the outlook is not a good one, though so far I cannot see any signs of a falling off in the amount of construction done in concrete in this country. There is, however, no saying what may happen during the next twelve months, as it has often been found in our history that changes are rapid and come when least expected.

Steel Production.

There does indeed appear to be a slackening in the steel production of this country, though this, I think, is due to the dumping of steel from abroad and a falling off in foreign demand and not to any lack in home consumption. Structural steel is in great demand, and the points to large buildings being constructed which in turn means that large quantities of concrete must be used, not only for the construction of floors, but also as a means of protection against fire, and therefore a bumper time for the cement manufacturer seems foreshadowed.

This, however, will depend to a very large extent upon whether the price of cement rises or falls. At the present time the rate is extremely high as compared with previous years, and I am afraid that if a further rise should take place in the price of cement it would most seriously hamper not only reinforced concrete construction but concrete work generally. There is a distinct danger in such increase in the price of cement, in that cheap foreign makes may be attracted thereby into the English market, and it is always a most difficult matter when work is being carried out to know whether a poor cement has been brought on the site or not. Already

imports of Belgian natural cement are very considerably increased, and from one's experience of this cement in the past it is to be sincerely hoped that it will be boycotted throughout the entire country.

It has been the custom of several firms in this country to import what are known as foreign blooms, roll them, and sell them as English steel. It has been my lot, either fortunately or unfortunately, to come across steel so made, and I found in every instance that it only came up to the foreign standard of 26 tons per square inch, whereas the lowest limit of the British standard is 28 tons per square inch. In many cases the steel rolled in this country from foreign billets has been as low in tensile strength as 23 tons per square inch. So I desire here to call the attention of all those who are interested in steel for structural work generally and for reinforced-concrete work in particular that the tests on steel should be carefully watched. In every case where possible, especially where the work is of such a size that one can afford to pay for tests, I advise that tests be made of the steel by an independent testing engineer.

Tenders.

You are aware that it has been the practice for many years past, when designs and tenders are required for work, to throw the work open to general competition instead of employing consulting engineers to design the work and then calling for tenders. In many cases this method of carrying out the work has led to a great deal of scamping, not only in the design, but in the cutting down of the amount of steel and concrete to such a degree that it has been a marvel in some cases that the work has stood at all. I am of the opinion that in all cases wherever possible competition should be done away with. It is a very rare thing indeed that competition in design and price at the same time serves any good purpose, for it leads to the cutting out of everything that is possible, and the omission of the extra safeguards in case of errors, bad workmanship, and bad material, so as to save the expense and enable the lowest tenderer to get the work. Furthermore, the specialist then becomes the servant of the contractor, and is therefore unable to properly supervise him, the risks entailed in such a course being self-evident.

Assistants and Training.

My notice for some time past has been drawn to the difficulty in obtaining assistants who are capable of designing reinforced-concrete work and structural steelwork. I consider that modern methods of teaching are largely at fault. At the present there is too much school and college training and not sufficient practical training in the shops. When I was a young man I had to go through all the shops, and work from 6 a.m. to 5 p.m., and so gain an insight into practical work and be able to handle all tools and carry out work. This training enabled one to come in contact with all kinds of designs, and to judge which was the best, both as regards utility and cheapness, or to combine several designs with that in view. At the present day few persons go through the shops; in fact, they think it lowers their social status. The consequence is that they have very little knowledge of practical work except that gained from illustrations in some book or magazine, and when called upon to design works they must have some previous example before them to see how it should be carried out, or must entirely rely upon others for their knowledge. In most cases knowledge has to be gained at their employers' expense.

The old methods of apprenticeship, in my opinion, were the best, and I think that better men were turned out thereby, at least from a practical point of view. All the learning in the world is no good unless one knows how to apply it; one may be well up in the theoretical part, say, of surveying, etc., but when it is a question of carrying out a survey, then practical knowledge is required. I think that, wherever possible, it is better to have the practical experience first, if possible, of course, securing simultaneously a combination of both. This is not always possible owing to the difficulty of a lad who has been working hard all day giving up his evenings to study—a difficulty which is increased now that there are picture palaces, etc., within a stone's throw. There is not the constant application to work in this country that one finds abroad, and I think the present method of home training is answerable for a lot, as children, and not the parents, seem to rule the household.

Much of the inadequacy of reinforced-concrete design to-day is attributable to the inexperience and want of proper technical training among structural engineering draughtsmen. The dearth of competent assistants is especially to be deplored because of the frequent harm that results by the making of mistakes by the incompetent draughtsmen who are employed for the want of good ones. The progress of reinforced concrete as a method of construction is hampered thereby, for when persons notice so many mistakes being made they are often chary of employing it. Naturally specialist engineers are desirous of increasing their output to the utmost, and they feel forced to seek help from those who are the only available material, and in the rush of work designs turned out by these assistants are too frequently inadequately checked before execution.

Concluding Remarks.

In concluding this, my second address to you, I must again finally call your attention to the great necessity of seeing that the cement used on the works is of excellent quality throughout, that it is carefully stored so as to prevent any loss of strength by over-aeration. Only by this means can good concrete be guaranteed; that is, of course, assuming that all the other ingredients are in their turn good and clean and that the workmanship is good. But all the care in the world cannot make good concrete unless the cement is of excellent quality. It is a most difficult matter to instil into the minds of contractors and others the very serious loss in the crushing strength of concrete when over-aerated cement is used. All I can do is to repeat, "Watch the cement," and if all your tests come out right there is no doubt of the result being good."

After the reading of the address Professor Henry Adams, M.Inst.C.E., proposed a vote of thanks, which was seconded by Mr. D. B. Butler, A.M.Inst.C.E., F.C.S., supported by Mr. E. Fiander Etchells, F.Phys.Soc., A.M.I.Mech.E., M.Math.A.

It was announced that at the next meeting of the Institute, on November 27, a paper would be read by Mr. W. A. Green, M.A., B.Sc.Eng. (St. Andrews), Assoc.M.Inst.C.E., entitled "The Differential and Integral Calculi for Structural Engineers."

THE SURVEYORS' INSTITUTION:

ON THE PART PLAYED BY WATER IN MACADAM ROAD CONSTRUCTION.

An ordinary general meeting of the Surveyors' Institution was held on Monday at No. 12, Great George-street, when Mr. W. G. Fearnsides, M.A., F.G.S. (Fellow of Sidney Sussex College, Cambridge, and Sorby Professor of Geology in the University of Sheffield), read a paper on "The Part Played by Water in Macadam Road Construction." In the course of his remarks he said:—

"Geologists and makers of roads have long found common interests in the study of stones, both as road metal and in the bed rock on which the roads are built. To-night I wish to direct attention to the special part played by water as an essential constituent of all road constructions and as the agent which, present in excess, is most generally responsible for their automatic disintegration and decay. Water, strangely useful and commonplace in many of its properties, is, in others, strangely unusual and peculiar; and after all these years of progress remains in many essentials an enigma to the scientist. To the chemist the most striking property of water is its power to dissolve a little of almost everything, and that with many substances it combines to form hydrates. To the physicist perhaps the most remarkable properties are the high boiling-point, the vast change of density when water evaporates, and, related to this, the great skin strength or surface energy possessed by liquid water. Other important properties are the high values of the latent heat constants both between ice and water and for water which is evaporated. The circumstance that water expands by one-eleventh of its volume when it becomes ice is almost unique, and, coupled with the other circumstance that the solidification temperature of water lies within the normal range of diurnal or seasonal variations of atmospheric temperature, leads to those phenomena which collectively we describe as frost. Let us consider these properties of water from the point of view of the water in roads. Water left to itself will, in time, dissolve a little of almost any road material. Natural waters have at one time fallen as rain, and in their passage through the atmosphere have taken up carbonic acid and oxygen from the air. Water as a solvent cleans the surfaces of the mineral particles which, aggregated, form the road stones, and brings the carbonated and oxygenated water into chemical contact with the bare surface. If all the mineral particles of the stones are of such composition that none of them react with the aerated waters, all is well, and neither rain nor water-carts can work chemical damage to the road. Usually this is not the case, and, except in the case of flints, and perhaps some quartzites, there is reaction between atmospheric waters and some or other of the mineral constituents of the road stone, which in time leads to the disintegration of the stone.

Any rock which contains felspar—and the best road stones, granites, syenites, diorites, basalts, and the like, consist largely of felspar—will have the felspar gradually attacked, and the less siliceous the felspar the more soluble does it prove. Any rock which contains a mineral rich in iron in the unoxidised—that is, in the ferrous state—will have that mineral rusted as well as partially dissolved. Any rock which has a mineral rich in lime will have that lime mineral transformed to calcium carbonate, which, in continuation of the same process, will surely be dissolved. Any sulphide mineral will in time be in part oxidised to sulphate with the production of some free sulphuric acid—a substance which may be trusted to disturb the equilibrium of its surroundings and greatly to further the disintegrating process.

The rate at which stones in a road crust suffer chemical disintegration is not in general as great compared with the rate of mechanical abrasion by traffic, but in the under, or foundation layers, where "out of sight is out of mind," and the stones are left to stew in water—sometimes percolating, sometimes stagnant—for whole seasons together, chemical solution is the process which counts. On ordinary road stones solvent action is most destructive and rapid when it attacks carbonate of lime present as a cement holding other and less soluble mineral grains together. The hard cement stones of the Lias and the Oolite clay districts of the south-eastern Midlands often go to pieces from this cause. Corallian calcareous grits of Yorkshire and Dorset, Upper and Lower Greensand of Devonshire and the Weald, and even the famous Kentish Rag in its less compact condition should be protected from the solvent action of water, and when buried are never free from suspicion. Bastard limestones, much used for second-class roads in the Pennine district, as well as in parts of Devonshire, Shropshire, and North Wales, also suffer solution changes, but with the increase in the percentage of lime carbonate the dissolving waters become saturated at the surface of the stones, and the danger of actual disintegration by partial solution is reduced."

The rest of a most excellent paper formed a detailed and comprehensive study of the subject of road construction as affected by water, the lecturer concluding by saying:—

"Igneous rocks, when compact and fresh, are attacked so slowly that through the space of one man's life they may be considered as immune.

And now for conclusions:—

1. The chemical action of water upon materials in roads is small as compared with the rate of mechanical wear, but care should be exercised in choosing materials which are to be buried in road foundations. Furnace slag for this purpose is not above suspicion.

2. The power of water to bind is an effect of surface tension, and for maximum strength and efficiency it is important that the proportion of water should be kept at the optimum; "as dry as it can be drained" is the first approximation to the optimum for most water-bound road materials. Potholes grow by the wear of traffic at those places where by local water-pockets the proportion of water is kept above the optimum.

3. Certain site-rocks, the argillaceous or clay rocks, owe their strength to water-binding, and are subject to the same conditions of optimum water content. The importance of cambering and draining the site is, therefore, equal to that of arranging the configuration of the road surface.

4. The effects of dew, more especially the dew

which distils from below, are noteworthy; and in this, as in the question of the strength of the road, the importance of complete sub-crust drainage is to be emphasized.

5. Water among solids which it does not wet acts as an insulator, and in the making of tar, pitch, asphalt, or bitumen macadam should be rigorously eliminated before stones and binder are brought together. The feasibility of chemical drying by adding to the partially-dried stones a suitable proportion of quicklime or unslacked cement is suggested.

Summarily it is concluded that for each and every road aggregate there is a characteristic optimum proportion of water, which, for efficient service of road user, the road-maker cannot afford to disregard."

ART AND IMAGINATION.

MR. KAINES SMITH'S fifth lecture on "The Nature of Beauty" dealt with the question of imagination, and we noted with some satisfaction that the lecturer never once used the word "beauty." He was dealing with a matter which evidently interested him profoundly, and he quite forgot to try and correlate it with the ostensible subject of the course. The fact is that imagination is one of the fundamental properties of art, perhaps indeed the only absolutely essential thing in art, and beauty a much over-estimated by-product of art. Consequently in any serious consideration of imagination the question of beauty is almost instinctively left out.

The definition of imagination which the lecturer gave is that it is "the making of mental images." This, he said, was the best definition he could think of, but there was more in imagination than that, and he hoped that the fuller meaning of the word would become clear to his hearers during the course of his lecture.

Primitive imagination, he thought, took the form of exaggeration, and the first way it tended to develop was by supplementing. It could not create; it could only combine, construct, select. There was in the minds of many people an idea that an imaginative thing was really an imaginary thing. This feeling that imagination was akin to lying was a complete misconception. Poe's "Tales of Mystery and Imagination," wild and extravagant though they were, yet had a basis of solid fact. There was not a phrase which was not founded on observation and deduced from recognisable natural forms.

We think Mr. Kaines Smith has here fallen into some slight confusion of mind. If imagination cannot create, it seems to us there can be no such thing as creative art, yet "Creative Art" is the title of one of his lectures, and is a phrase he is fond of using. Surely Mr. Smith has been using the same word with two very different meanings? When he says that imagination cannot create he means, we suppose, that imagination cannot make something out of nothing—a statement obviously true. And when he speaks of creative art he implies really the combination of certain mental images to express an idea in a way that has not been done before. Our modern habit of using words loosely to express quite different ideas is responsible for a great deal of confusion of thought.

Mr. Smith went on to say that the aim which should lie before the imaginative artist was to select the best and the most powerful phrase, word, colour, or form to express his idea. Elimination and subordination of accessories must be carried so far that the central idea leaps to the eye. Phil May's drawings were truly imaginative, because he pruned away everything but the barest essentials. All his work conjured up the one idea for which it was drawn.

Discussing the imaginative qualities of other artists, Mr. Smith said that it was a mistake to suppose, as many people did, that the art of the Middle Ages contained more imagination than modern art. What imagination it did contain was limited and childish. Its images were taken directly and literally from written descriptions, without any of the modifications which the change of medium would have suggested to more highly-developed minds. As, in instance of what he meant, the lecturer mentioned the seraphim, described in the Bible as having six wings arranged in a certain way. Mediæval painters, he said, always represented these beings with the right numbers of wings disposed carefully on the same plan. This, he thought, argued a lack of imagination in the mediæval mind. We would, nevertheless, point out that no one at that time—however great his imagination—would have dared to alter, in the smallest particular, any statement in a book which all regarded as the inspired Word of God. We may perhaps admit that the mediæval imagination was rather naïve in character, but there was no lack of it in any department of life. The lecturer also said that imagination was more highly developed in one country than another. England had more imagination than Italy, Scotland than England, and Iceland than Scotland.

Personally we can see little to be gained from arguments of this kind. No proof is possible, and, save for the pleasure which many derive from acrimonious discussion, the benefit derived would appear to be *nil*.

THE MATURED ROMAN PALLADIAN SCHOOL.

MR. RICHARDSON'S lecture dealt with the most brilliant period of the eighteenth century. "Hitherto," he said, "the majority of writers have consistently decried the eclectic methods of the coteries who flourished during this fascinating age. The value of an academic standard for civil architecture has been scoffed at, the continuity of the tradition refuted, and nothing but decadence hymned. The undue desire to obtain weighty literary contrasts, without due consideration of the minutiæ of the subject, has given rise to odious and impertinent comparisons, the critical faculty being mainly exercised to pull down and not to construct.

The efforts of the Society of Dilettanti during the ten years from 1760-70 were directed not merely to theoretical inquiry into matters of a past civilisation, but towards the furtherance of a living and contemporary art; the benefits were immediate and commensurate. It must also be remembered that the proposal for the foundation of a Royal Academy of Art emanated from the Society of Dilettanti, who made the first step towards an establishment of this nature, which in turn led to the formation of the Architects' Club in 1791, with headquarters at the Thatched House Tavern. These gatherings foreshadowed the foundation of the Royal Institute of British Architects.

The spirit of the age continues Roman. Piranesi's etchings, the first series of which appeared in 1748, are extended in scope, and collections of them become part of every architect's working library. 'On the publication of Stuart's "Athens" there was a great sensation created in England amongst the admirers of the Fine Arts; it grew into an almost mania for Greek architecture,' writes Gandon, the architect. As a matter of fact it affected little except the ornament and detail of buildings. A further period of sixty years was to elapse before the Greek phase developed in full.

Of the group of architects immediately preceding Sir William Chambers the most conspicuous figure was Sir Robert Taylor. At an early age Taylor visited Rome, and, returning to England, commenced as a statuary, carrying out two monuments in Westminster Abbey, the figure of Britannia at the Bank of England, and the magnificent sculpture on the pediment at the Mansion House for the elder Dance. About 1750 Taylor began practice as an architect. Stone Buildings, Lincoln's Inn-fields; Nos. 35 and 36, Lincoln's Inn-fields; Ely House, Dover-street; No. 70, Lombard-street; the old Patent Office; Lord Clarendon's House in Whitehall Yard are characteristic works. Between 1766 and 1783 Taylor carried out large additions to the Bank of England, including the appendages on either side of Sampson's original centre, and also many of the interior arrangements, including the Bank Parlour.

His contemporary, James Paine, 1716-89, first acquired fame as the designer of Cusworth, Yorkshire. This was followed by the Mansion House at Doncaster, the stables at Chatsworth, and the bridge over the Derwent; Dover House, Whitehall (back portion); Thorndon Hall, Essex; and Wardour Castle.

Both Sir Robert Taylor and James Paine gained mastery in their work as time went on, and it is curious to note that the work of both was developing towards the attenuated elegance, characteristic of the work of the Brothers Adam, some time before the Scotchmen descended upon London.

By 1760 Chambers was well on the way to establishing his reputation as a great artist. He remained a staunch champion of the grand or monumental school, while the Adams formed the opposing camp of the elegant and ornamental faction. Within certain specific bounds, and each within its own sphere, both divisions of opinion were productive of magnificent buildings. As a young man Chambers visited China, and later Paris and Italy, where he remained for nearly ten years. On his return to England he became instructor to the Prince of Wales, and eventually a Royal architect. His earliest work is said to have been a temple in the grounds of Coleby Hall, Nottinghamshire. The theatre and chapel of Trinity College, Dublin, were carried out from his designs in 1759, and from then onwards a constant stream of buildings bear witness to his tireless energy.

In 1776 Chambers, in his capacity of Surveyor-General to the King's works, was directed to prepare plans for establishing public offices on the site of the old Somerset House, and to include in the design accommodation for the Royal Academy, the Royal Society, and certain other Government departments. In the execution of this remarkable group of public offices Chambers achieved the greatest architectural triumph of the Roman school. The exquisite character of the carved decorations which adorn every part of the building reflect alike the refined taste of the architect who selected the *motif* and the loving care of the sculptor who carried the idea into effect. Regarded solely as an example of academic planning, the disposition of the blocks of buildings is excellent, but the high standard of composition attained in the plan was not wholly extended to the elevations. As individual blocks each separate group is superb, the climax to the conventional scenery being the magnificent group fronting the Strand, which, viewed from the Court of Honour, satisfies the most critical eye. But once the vestibule is passed and the courtyard reached one searches in vain for a feature sufficiently impressive to dominate the grouping from the southern extremity. Chambers failed to unite the elevation of the buildings parallel with the river with the group forming the Strand block. It is apparent that he feared a double climax, and followed a tamer course by introducing an unworthy dome with supporting turrets to the side wings."

After dealing briefly with the work of James Gandon, the talented pupil of Chambers, who worked largely in Ireland, Mr. Richardson turned to his lantern slides. As an example of Taylor's work, and showing how it approached the manner of the Brothers Adam, the lecturer had thrown on the screen a photograph of the doorway of No. 5, Dover-street. He drew attention to the columns placed externally to the architrave as submotives to it, and to the stilted fanlight, which he thought admirable in design.

Several photographs of the interior of the Bank were next shown to refute the idea that this style of decoration is dull. The Board-room, in particular, was, Mr. Richardson said, one of the richest rooms in London.

A picture of the Swan Hotel at Bedford was shown, as possibly the work of Paine, and certainly the most architectural hotel in the country.

Coming to the work of Sir William Chambers, the first slide shown was the staircase at Pembroke House, which took the form of a bracket staircase, the stairs being shaped as consoles springing directly from the wall which appears to support them. In this house, too, there is a broken pediment, almost the only one Chambers allowed in his work. The casino in the grounds of Charlemont House was, said Mr. Richardson, in very bad repair when he visited it for the purpose of taking the photograph which he showed. But so little interest was taken in this fine piece of architecture that he believed it was shortly to be pulled down, in spite of the fact that an American architect had offered £200 towards its restoration. It was, he said, the more regrettable because it was a particularly fine example of the architecture of the period. The monumental grouping of the silhouette was particularly good.

Mr. Richardson next dealt at some length with Somerset House. Speaking of the river front, Chambers' work, he said, only went as far as the two pavilions. The remainder was added by Smirke, and the whole building was too lengthy to be held in check by the small

dome. Various suggestions had been made to rectify this, but so far without much prospect of success. His own idea was to introduce flat pilasters to unify the whole central mass as far as the pavilions into one central feature. But, even admitting the too great length of the building at present, he pointed out that the series of grand terraces rising from the water produced a magnificent effect. The rustication of the columns was quite happy, because the introduction of square blocks cutting up a round column had been avoided. The vestibule which Professor Blomfield had said was bad, because totally unrelated to the Strand frontage, he nevertheless considered satisfactory because it is really part of the interior of the building, forming an approach to the rooms of the Royal Academy. The ornament throughout he felt to be really eminently suitable to the building and at the same time a departure from established methods. Chambers, he said, evolved a new system of decoration, quite apart from the Brothers Adam, though derived to some extent from the contemporary French work.

In conclusion, the lecturer showed some of Gandon's work in Dublin and elsewhere. The Customs House had, he thought, a fine river frontage, though the cupola (intended to be visible from the sea three miles away) did not quite go with the proportions of the Orders below, and, of course, the curious "soup tureens" on the sky-line could not be defended.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY:

PRESIDENT'S ADDRESS.

THE President, Mr. A. E. Kirk, A.R.I.B.A., in the course of his address, which was delivered on the 20th inst., said:—

"You all know the usefulness of a society like ours is largely affected by the spirit and energy which its Hon. Secretary brings to his task. In Mr. Whitehead we have an official whose enthusiasm and devotion to his work is great. We offer the best thanks of the Society to him. Mr. Whitehead has arranged a very interesting syllabus of lectures for the session.

The finances of the Society, I am pleased to say, are in a sound condition, consequently the Council has been able to make valuable additions to the library, and they hope to purchase more books this year.

The School of Architecture continues to do good work under the able guidance of Mr. Coombs. It is regretted that the School is not recognised by the R.I.B.A. During the year it has been visited by Mr. Blomfield, on behalf of the Board of Education, and also by Mr. Needham Wilson and Mr. Gerald Horsley, on behalf of the Board of Architectural Education of the Institute, who all reported favourably on the work being done. I am glad to say that this year the students will have the benefit of visits from practising architects in the city. Messrs. W. H. Thorp, S. D. Kitson, and J. C. Procter have undertaken the task. Their criticism and advice will be of great advantage. One of our members, Mr. J. H. Farrar, has been successful at the Royal College of Arts, South Kensington, winning the Travelling Prize, and he has been awarded the Diploma of A.R.C.A. Mr. Farrar has just been appointed Architectural Master at the Cambridge School of Art.

Registration.

Registration, I regret to say, has not made much progress during the year. The Special Committee appointed by the R.I.B.A. has at last issued a Report, the sum and substance of which is that the time is not opportune to promote a Bill on account of the enormous amount of work before Parliament at the present time. Mr. Blomfield, in his Presidential address, says:—"I will remind you that such questions can only be settled by pulling together. It is not to be supposed that any method can be devised which will be wholly acceptable to everybody, but when the solution to which I refer is suggested to you I feel sure that this *esprit de corps* will have the full scope and bearing that it should have in a great profession like ours, and that we shall not trust in vain to this same honourable sense of fellowship."

Mr. Blomfield's words are most statesmanlike, but if one could read his thoughts the President of the Institute this year foreshadows that he is in favour of moving one step nearer the goal. With regard to the provinces, there is no doubt we shall pull together and show a united front, and I hope London will take this to heart and come into line. It is to be hoped a permanent solution of this difficult question will soon be found for the benefit of English architecture.

Since writing these words the R.I.B.A. have issued a further Report on the subject, and have called a meeting of members for December 1 to consider it. Although most of the replies from the allied societies are in favour of proceeding with the Bill of Registration, the Council are strongly impressed by the reluctance of others to take such a course—in other words, when will the profession be unanimous? The latest move is not to promote a Bill, but to ask the Privy Council to grant a new charter, so that all members of the Institute shall have the distinctive title of "chartered architect."

The scheme suggested wants very careful consideration, but I think you will agree that if new powers are granted it will be a means of safeguarding the public and ourselves to a certain extent; if we cannot get the whole loaf half is better than none. Your Council will give it their serious attention; until they have discussed it I will not offer a definite opinion.

Allied Societies.

A Committee has been appointed by the Institute consisting of all the Presidents of the allied societies to deal with the question of redistribution of the districts allocated to the provincial societies. There is a feeling that the different societies have not much influence over their areas at the present time. For instance, our Society, roughly, embraces from Settle, in the North, to Barnsley, in the South, and Halifax, in the West, to Hull, in the East; so you can imagine we have not much influence in the moorland wastes of Yorkshire or at such a distance as Hull. Our neighbouring societies, Sheffield and York, met in Leeds during the autumn and discussed the matter from our point of view, and we came to the conclusion that it would be better to form a new society, with Hull as its centre, to deal with the East Riding of Yorkshire, York to take North Riding, and Sheffield and Leeds to share the West Riding. As a result of this meeting all the practising architects in the East Riding have had a circular sent to them asking them if they are in favour of forming a society, but no decision has been arrived at yet. The Committee has not met in London, but when it does you can rest assured that your interests will be looked after.

Sketching Club.

The Sketching Club have had a most successful year under the able guidance of the new Hon. Secretary, Mr. Douglas Bowman, who, I am pleased to say, has infused new life into it. Ten new members have joined the Club this year. Visits have been made to Methley, Wakefield, Templenewsam, and Halifax. The excursion to Shibden Hall proved most interesting, and through the kindness of the owner, Mr. J. W. Lister, members were permitted to examine many old prints and plans. Afterwards Mr. J. F. Walsh, who acted as guide, kindly entertained the party to tea at his house at Shibden. I hope that all the students will join in the Sketching Club and take part in the excursions, because it draws you closer together and, at the same time, takes you away from the mere drudgery of business to the fascinating side of our art, and I know of no better way for a student to employ his leisure time than sketching or measuring, and more can be learnt by a few hours' sketching or close inspection of an existing building than by many laborious hours with the T square and drawing-board; and here, if I may give advice to students, do not select too large a subject with the idea of making a pretty picture, but rather make a rough sketch of the massing, and then sketch some portion more in detail, and always obtain a few measurements and sections of mouldings; this you will find most useful in after life. Mr. Elsworth's work submitted this year for the Detail Study Sketching Prize shows you the kind of work I mean, and is well worth studying. Some of the most beautiful architectural sketches are those drawn by Mr. Reginald Blomfield. If you look at those in his book on "The History of French Architecture" they bear out what I mean. The work of the student is always interesting as showing the progress or otherwise of the year. This year the work is of a high quality, and has been productive of some really good results. I know that students who have competed—would there had been more—will, I venture to think, have gained more knowledge than they imagine. To those who have not won a prize I say continue your efforts; work and labour will strengthen you for future success. The race is not always to the swift. Continued perseverance will eventually earn a reward; and indeed there is a pleasure in engaging in a contest which exceeds the pleasure of winning a prize.

Architectural Building.

It has been the custom in these annual addresses to give some account of the most important buildings of the year, but I regret to say that within the city there is little to mention; stagnation in the building trade so far as Leeds is concerned has not improved. There is a great lack of confidence in land and building all over the country, no doubt owing to recent legislation. Let us look forward, therefore, to a period of security; money will then be invested in buildings for the good of the State instead of being sent out of the country.

If the conversation in any mixed company happened to turn upon architecture, or if some work, proposed or executed, be made the subject of discussion in the newspapers, it soon appears that the general idea of architecture is that it is ornament applied to buildings. The public knows very well what building is and that it cannot get on without it. It must have its houses to live in, its shops to do its work in and to sell its goods in, and its warehouses to store them in, and these are buildings but not necessarily architecture. As for architecture, it is a luxury, a thing which may be had if you choose to pay for it, or may be done without, or it may be postponed and laid on afterwards when its cost can be afforded; in short, it is not an essential part of a building, but an ornament which can be added to it. There is a feeling which can be described as a sense of civic decency, which makes men require that public buildings and buildings in important public places shall be what they call architectural; but if the fronts are sufficiently ornamental and look costly they are quite content. Architecture should consist of three attributes—utility, stability, and beauty; and man without knowledge of construction is incapable of directing buildings, either artistic or otherwise—he, therefore, is not an architect. He may be a man of good taste and skilful in the application of ornament to surfaces which he finds ready for it. It does not, however, belong to architecture, but to the noble art of decoration. So far is true architecture from being an ornament that it may exist almost without ornament, and depend upon massing and proportion. Ornament is one of an architect's means, and he will seldom altogether neglect to use it; but a building of much grandeur and dignity may be obtained by the right use of the forms of construction, only without ornament of any kind. The late Mr. Bentley's Roman Catholic Cathedral at Westminster illustrates my point; one of the most impressive buildings I know even before the veneer was applied to the interior, being architecture of the highest order. On the other hand, the most beautiful ornament will not give architecture to a building which lacks it, for at the utmost it can but conceal defects, as a cloak may conceal a deformity, for real architecture can no more exist without construction than human beauty can without the structure of bone and muscle, of which it is external form. If good ornament cannot make good architecture it is quite certain that bad cannot do so. Yet a good deal of what is presented to the public as architecture, and contentedly accepted by them as such, is merely building decked out with applied ornament which might all be left out without affecting the structure of the work, and perhaps gain in the appearance. So long as the public are satisfied with such work they will be served with it. As I said just now, the public are architects' masters, as indeed they are of every man who has wares to sell, be they the product of his labour or of his brain. But the architect is at this disadvantage that he cannot send his wares to market where buyers are gathered together. Before he can exercise his art he must wait until the buyer comes to him, and when the buyer cannot tell the real articles from the counterfeit, and puts very little value on either, he is apt to keep his money in his pocket, and not to buy at all or to buy recklessly from any man with whom chance or interest may bring him into contact."

Lord Milner, in proposing a vote of thanks to the President of the Institute, said:—Of all the arts architecture is the one that has the

largest range of influence, and the welfare of which was of the most vital importance to the great body of the community.

The cure lies in the education of the public taste, and certainly some progress has been made during the last twenty years. The public are being influenced to appreciate what is good. Fortunately, history is now being written as a continuous development, and the lay mind is able to unravel the mysteries of architecture, and by degrees the public will demand better work. We, in our turn, should strive to give always of our best. Architecture in England is certainly alive; we have left behind a striving to be original for originality's sake, and are now working on sound lines, trying to pick up the motive left us by Wren and Cockerill; in so doing we shall in time work out to its logical conclusion our own traditional phase of the Renaissance, and fresh problems will arise demanding new ideas. Let us see that we are masters of the old forms, and use them to their best advantage.

MAGAZINES AND REVIEWS.

THE *Art Annual* for 1913 is devoted to a profusely illustrated account of the art of Mr. E. Blair Leighton, by Mr. Alfred Yockney. The fifty illustrations given include several coloured plates. The price of the annual is 2s. 6d. net.

The *Burlington Magazine* for November contains an article on Barnaba da Modena, by Commendatore Corrado Ricci, illustrated by a fine colour reproduction of a panel presented to the National Gallery and other illustrations. Some carved chests of the High Renaissance are described by Mr. Frank Jewett Mather, jun.; two Still Life pictures by Murillo (?), by Tancred Berenius; Aragonese Primitives, by Jose Pijoan, illustrated by some interesting pictures of religious subjects. Sir Martin Conway writes the second part of an article on "A Dangerous Archæological Method"; "An Idealised Portrait of Diane de Poitiers," by L. Dimier; and an article on "The Origin of the Persian Double Dome," by Mr. K. A. C. Cresswell; while a quaint Kentish spoon is described by Mr. G. Baldwin Brown; "The Symbolism of Certain Catacomb Frescoes," by Miss Ethel Ross Barker; and "Notes" complete the number.

The *Connoisseur* for November is a specially good issue. "London in the Works of Canaletto and Scott" is treated by Mr. E. Beresford Chancellor, and illustrated by some delightful examples. Mr. J. Starkie Gardner contributes an interesting article on "Some Personal Relics of Henry VIII."; while the Talbot Hughes Collection of Costumes, which is to be on view at Harrod's, forms the subject of some notes by Mr. Philip Gibbs, and is delightfully illustrated by some colour photographs. "Earthenware of the Seventeenth and Eighteenth Centuries from the Manfield Collection" is treated by Mr. T. J. George; and "Notes and Queries" complete the issue. The colour illustrations of the "Fountain of Love," by Fragonard; "Mrs. Drummond Smith," by Sir Joshua Reynolds; "Lady Hamilton as Ariadne" and "Lady Erne," by Mr. John Downman, are fine examples of their kind.

Harper's Magazine for November is a well-illustrated issue, which contains several interesting articles, amongst which we may mention "The Friendly Rocks," by John Burroughs, and "Unusual Venice," by Mary Heaton Vorse. The article on Venice opens with the following:—

"For a city to discover to one the secrets of its heart one must have patience, as well as the eye to see; and no appreciation, however profound, of the city's obvious loneliness counts much to this more intimate knowledge. To understand a city one must come to it with a certain virginity of the spirit, one's mind untouched by what others have said concerning it, one's vicion undimmed by the pictures that others have painted. This innocence of mind is hard for a grown person of any intelligence to achieve concerning famous cities. It is for this reason that Venice, of all cities, is the hardest to know. Its beauty is so obvious, its charm so profound, that one may live there a long time before penetrating the outer surfaces, the very glamour of its peculiar beauty a barrier to a more intimate understanding of it as it exists to-day. We go to it heavily handicapped with a knowledge of what we must seek and what we must see, our minds saturated with the impressions of others; and to know a city, even that of one's birth, one must rediscover it oneself and see it with one's own eyes, from one's own angle"

CO-PARTNERSHIP TENANTS, LTD.:

ANNUAL DINNER.

THE sixth annual dinner of this society was held at the Connaught Rooms, Great Queen-street, on Thursday, November 20, when a large company was present, with Mr. J. F. L. Brunner, M.P., in the chair. After the usual loyal toasts had been honoured, Mr. Councillor H. R. Rathbone, the Lord Mayor of Liverpool, rose to propose "The Co-partnership in Housing Movement." Telling the story of his own city, he said that sixty years ago the condition of Liverpool had been simply disgraceful. Houses stood back to back with practically no yard space between them, overlooking narrow courts with open sewers. Typhus and cholera were constant scourges. On one occasion he had heard that a medical officer, visiting a case, had to use stepping-stones to cross the filth on the floor and reach his patient, who was lying in a corner on a heap of straw. These dreadful conditions had been partly due to the special difficulties which Liverpool had had to face. For instance, in the Irish famine year no fewer than 80,000 people came to Liverpool from Ireland. But he felt that no city had made more courageous efforts to cope with the problem. They had first tried demolition, and when this led to overcrowding the Corporation had spent a million pounds in building over 3,000 new houses, and were prepared to spend half-a-million more. Cholera and typhus had practically disappeared. Their building regulations secured ample air space, and there were no fewer than sixty-one parks and open spaces in the city. But even so, Mr. Rathbone felt that Liverpool had not quite learnt her lesson. All over the outskirts of the city were endless rows of dreary little boxes. The outermost fringe of these were inhabited by respectable tenants, but as one came nearer the centre of the city the class of tenant grew worse and worse, though the houses remained the same, till the innermost ones either stood empty or were let to very undesirable tenants. The fact was that, since people could have no sort of interest, no feeling of proprietorship in these hired boxes, they were constantly moving outwards to keep in touch with the ever-receding country, leaving their hutches to be inhabited by anyone who could be got to take them. Had the principles of the garden city been realised, said Mr. Rathbone, this need never have happened The garden suburb that they had at Harborne was a small oasis in the dreary desert surrounding Liverpool, and its tenants took a real interest in their property and showed no inclination to "move on." What the speaker felt was wanted was more imagination in Liverpudlians, for he was quite sure that if they could be made to realise the benefits of the new system they would contribute all the money that was wanted. In conclusion, he wished to couple with the toast the name of Mr. James Moon, J.P., the Mayor of Birkenhead, who had done so much for the movement.

Mr. Moon replied briefly, and said that he felt all the labour problems would become much less acute if the labourer were given a really comfortable home. He thought that the present feeling of discontent would disappear if there were garden cities everywhere.

Mr. Henry Vivian, J.P., responding to the toast, said they had every reason to be satisfied with the confidence of the public in their enterprise and the progress made. It was six years since he invited Mr. F. Litchfield to become the Secretary of the Society which he was then forming. They began with the modest capital of a few hundred pounds, an office about 6 ft. by 12 ft., and one employee. They had persevered and built up their movement until they employed upwards of a thousand men, and had built a million and a quarter pounds' worth of property. The Society was now engaged in developing a dozen different residential estates, on which they had erected and let over 3,000 houses, while another 7,000 were to be built. When these were complete they would have spent over £3,000,000. The Co-partnership Tenants, Ltd., had never failed in their obligation to their investors for a single day, and had regularly declared a 5 per cent. dividend on shares, at the same time building a satisfactory reserve fund. Nationally we were moving in a vicious circle in many social and economic questions. We were told people could not pay an economic rent for a decent, healthily situated home because their wages would not enable them to pay an economic rent, because their conditions prevented them from being mentally and physically able to earn a larger wage. So they went round the circle of bad uneconomic conditions. The co-partnership and other garden suburbs had demonstrated beyond doubt that a much healthier and more efficient life of the individual was possible with security and a fair return to the capital involved. The death rates are brought down to the minimum possible; above all, they saw on these suburbs the full life-saving effect in the case of the children. The infant mortality on the Hampstead Garden Suburb was about eleven per 1,000, and even lower in the case of the Harborne Garden Suburb, whilst for the country it was ninety-five per 1,000, and for the crowded parts of the big towns it went up to somewhere about double ninety-five. One good feature in connection with the Co-partnership Estates was that continuous corporate control prevented the property from degenerating, as house property often did, and then the value of the security was kept up. Public confidence in the co-partnership enterprise was increased with the growth of the business, and they have raised more capital for their estates during the past twelve months than they had raised in any preceding year. The movement was one in which men, women, and all political parties could readily join, and the larger it becomes the more influential will its example be in stimulating others to go and do otherwise or improve.

LAW REPORTS.

KING'S BENCH DIVISIONAL COURT.
(Before Justices BRAY and LUSH.)

Building Contract Dispute: Gilford against Capon.

THIS case was heard on November 21 upon a motion by the plaintiff to set aside an arbitrator's award on the ground that it was bad on the face of it.

Mr. Palmer appeared in support of the motion, and said that the dispute had arisen out of a building contract for the erection of a house at Purley for £975, between Mr. Gilford and the respondent, Mr. Capon, who is a builder. The contract was entered into in December, and a dispute arose as to the execution of the work, which resulted in certain matters being submitted to arbitration. Mr. Scott, an architect, was selected as arbitrator, and the arbitration took place on January 15 last, Mr. Scott publishing his report on the 28th of that month. The notice of motion to set aside the award was given on February 18 on behalf of Mr. Gilford. An arrangement had been made between the parties, under which Mr. Gilford guaranteed payment for certain goods supplied to the builder, and it was said that a separate adjudication had not been made by the award in reference to those goods, the claim for which amounted to £224. The foundation of the motion was that the award was bad. No claim had been put forward by the builder in respect of the guarantee, and the arbitrator had made his award in regard to it.

After reading the award of the arbitrator, Counsel contended that he (the arbitrator) was wrong in saying that Mr. Gilford made no claim.

Mr. Justice Bray said that the Court could not entertain that matter, as it was purely a question of fact for the arbitrator. At the same time it was immaterial.

After some further argument, Mr. Justice Bray said that the motion failed and must be dismissed, and he congratulated the arbitrator upon the clearness of the award and of his answers to the questions submitted to him.

Trade Union Test Case: Master Decorator or Master Builder?

IN the Bow County Court on Friday, before his Honour Judge Smyly, K.C., Alfred Nash, of 85, Edinburgh-road, Plaistow, a painter, sued Mr. James W. Jerrand, of the Crown Works, Boundary-road, East Ham, to recover 1s. 7d., balance of wages alleged to be due.

Mr. A. A. Robinson appeared for the defence, and explained that it was a trade union case, whereupon his Honour said, as he supposed it was in the nature of a test case, he would take a full note of it. Mr. Robinson said the plaintiff claimed an extra ½d. an hour, and the claim had really been put forward by the Secretary of the National Amalgamated Society of Operative House and Ship Painters and Decorators.

The plaintiff went into the box and said that he had been in the employ of the defendant twice before, and had never had anything to complain about before at any time as to wages and conditions. On this occasion he was engaged on October 2, started on the 3rd, and worked till the 9th. He was then paid at the rate of 9d. per hour, and at once insisted that it should be 9½d., but the foreman would not agree to it. There had been no question as to the wages before. Plaintiff then went and saw the defendant, and told him that, as he was a member of the Master Decorators'

LAW REPORTS—*continued on page 596.*

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xix.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.**

Competitions.

NOVEMBER 29. — **Folkestone.**—BAND PAVILION.—The Folkestone Corporation invite designs for a band pavilion to be erected on the face of the West Cliff. See advertisement in issue for August 15, and "Competition News," August 22.

DECEMBER 19.—**Bury.**—WORKMEN'S DWELLINGS.—The Corporation of Bury are prepared to consider schemes from architects and builders for the erection of ten pairs of semi-detached cottages, as an extension to the existing housing scheme, off Bolton-road. Particulars on application to the Borough Engineer, Bank-street, Bury. Deposit, £1 1s.

DECEMBER 31.—**London.**—GOVERNMENT BUILDINGS.—The Commissioners of H.M. Works and Public Buildings invite designs from architects in competition for new offices for the Board of Trade, etc., in Whitehall-gardens, S.W. For particulars, see issues for September 5 and October 17, and also advertisement in issue of September 5.

JANUARY 2, 1914. — **Manchester.**—NEW BUILDINGS AND ALTERATIONS.—The Board of Directors of the Manchester Royal Exchange, Ltd., invite architects to submit designs for additional new buildings and alterations on the existing Exchange buildings. See advertisement in issue for September 5.

FEBRUARY 1. — **Coventry.** — TECHNICAL INSTITUTE.—The Coventry Corporation invite competitive sketch plans for a Municipal Technical Institute at Pool Meadow.

MARCH 20. — **Belfast.** — ART GALLERY AND MUSEUM.—The Belfast Corporation invite designs for above buildings. Total cost not to exceed £75,000, of which only £30,000 will be spent at once. Assessor, Mr. John J. Burnet, A.R.S.A., LL.D. See advertisement in issue of November 7.

APRIL 1.—**Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. See page 178, August 9, and page 850, September 27, 1912; also page 708, June 20.

APRIL 2. — **Ottawa.** — DEPARTMENTAL AND COURTS BUILDINGS. — The Department of Public Works, Ottawa, invite architects to submit sketch designs in a preliminary competition for above buildings. Six will be chosen from these for final competition. The five unsuccessful competitors will receive $3,000. The winner will be entrusted with the work. See particulars in issue for September 19 and advertisement in issue of September 12.

* NO DATE. — **Brighton.**—CLOCK TOWER.—The Brighton B.C. invite designs for a clock tower not to exceed £1,000.

* NO DATE.—**Durham.**—SCHOOL.—The Durham E.C. invite competitive plans for residential school for defective children.

Contracts.

BUILDING.

DECEMBER 1.—**Bradford.**—HOUSE.—For the erection of a residence at Heaton, Bradford. Mr. A. G. Adkin, architect, Bank-street, Bradford.

DECEMBER 1. — **Dewsbury.**—WAREHOUSE.—For the various works required in the erection of a two-story warehouse at Victoria Mills, Savile Town, Dewsbury. Specifications, etc., of Messrs. Kirk, Sons, & Ridgway, F.R.I.B.A., architects, Market-place, Dewsbury.

DECEMBER 1.—**Glamorganshire.**—SCHOOLS, ETC.—The Glamorgan C.C. invite tenders for the following works:—(1) New school at Trefelin, near Aberavon; (2) manual instruction centre at Blaenllynn School, Maesteg; (3) new heating chamber, etc., at Bargoed Infants' School; (4) new hoppers and fanlights at Brithdir Mixed and Infants' School. Specification, etc., for Work No. 1 at the Port Talbot Police-station, and for Work No. 2 at the Maesteg Police-station; for Works Nos. 3 and 4 at the Bargoed Police-station. Specifications, etc., for all works of Mr. T. Mansel Franklen, Clerk of the C.C., Glamorgan County Hall, Cardiff.

DECEMBER 1. — **Glasgow.**—FITTINGS, ETC.—The Corporation invite offers for the following works required at Langside Library:—(1) Joiner work fittings; (2) electric-light installation; and (3) painter work. Specifications at the Office of Public Works, City Chambers, 64, Cochrane-street. Deposit, £1 1s.

* DECEMBER 1. — **Hammersmith.** — SKITTLE SALOON, ETC.—Builders wishing to tender for this are invited to submit their names.

DECEMBER 1.—**Kingston-on-Thames.**—ALTERATIONS.—The Guardians of the Kingston Union invite tenders for alterations and additions to a building at the Workhouse, Kingston-on-Thames. Specification of Mr. Chas. W. Dash, Clerk to the Guardians, Union Offices, Coombe-road, Kingston-on-Thames.

DECEMBER 1. — **Newtown Butler.**—RECTORY.—For erection of new rectory. Specifications, etc., of Mr. Potts, architect, Greenbank, Clones.

DECEMBER 1. — **Nottingham.**—REPAIRS.—The E.C. invite tenders for the execution of ordinary minor repairs to school buildings for the two years ending December 31, 1915, in each of the following districts:—Bulwell and Basford; Hyson Green, New Basford, and Sherwood; Eastern; Lenton and Central; Sneinton and Meadows. Contract No. 1:—Bricklayers', slaters', masons', and plasterers' work. Contract No. 2:—Carpenters', joiners', and painters' work. Contract No. 3:—Plumbers' and glaziers' work. Forms of tender, etc., from the City Architect, Mr. A. Dale, Guildhall. Deposit, £1 for each district contract.

DECEMBER 1. — **Nottingham.** — REPAIRS.—The Estates Committee invite tenders for the execution of ordinary minor repairs to the properties under their charge for two years ending December 31, 1915. Contract No. 1:—Bricklayers', slaters', masons', and plasterers' work. Contract No. 2:—Carpenters' joiners', and painters' work. Contract No. 3:—Plumbers' and glaziers' work. Forms of tender, etc., from Mr. W. Smith, Estates Surveyor, Guildhall. Deposit, £1 each contract.

DECEMBER 1. — **Penarth.**—PAVILION, ETC.—The Penarth U.D.C. invite tenders for the erection of a pavilion and the construction of footpaths, stoneware pipe drains manholes, etc., in connection with the laying-out of Belle Vue-gardens. Specification, etc., of Mr. Edgar J. Evans, A.M.Inst.C.E., Surveyor, Council Offices, Penarth. Deposit, £2 2s.

DECEMBER 1. — **Winsham.** — ALTERATIONS.—Somerset County E.C invite tenders for alterations to the Council school at Winsham. Specification at the office of the architects, Messrs. Symes & Madge, Somerset House, Chard.

DECEMBER 2. — **Aylsham.** — SLATING. — The Aylsham B.G. invite tenders for reslating the infirmary roof at Aylsham. Mr. H. J. Gidney, Clerk, Aylsham.

DECEMBER 3. — **Conway.**—HOSPITAL ADDITIONS.—The Conway and Penmaenmawr Joint Hospital Board invite tenders for the erection of covered ways between the administrative block and the various wards, screens to verandahs, shelter to disinfector, new larder, and coal store. Specification, etc., of the architects, Messrs. T. B. Farrington & Son, Trinity-square, Llandudno.

DECEMBER 3.—**Coxheath.**—STABLE, ETC.—The Kent C.C. invite tenders for the erection of stable, store, cart shed, etc., at Coxheath, Maidstone. Specifications at Sessions House, Maidstone. Mr. A. Barker, County Land Agent.

DECEMBER 4.—**Dursley.**—SCHOOL.—For erection of primary department of Dursley Tabernacle School, Gloucestershire. Specifications, etc., of Mr. A. W. Probyn, architect, 9, Berkeley-street, Gloucester, or the Rev. F. Ives Cater, Dursley. Deposit, £2 2s.

DECEMBER 4.—**Huddersfield.**—SHOPS, ETC.—The Corporation of Huddersfield invite tenders for pulling-down existing premises and erecting two shops and one dwelling-house at the junction of St. Thomas's-road with Lockwood-road, Folly Hall, Huddersfield. Specifications, etc., of Mr. K. F. Campbell, M.Inst.C.E., Borough Engineer and Surveyor, 1, Peel-street.

DECEMBER 4. — **Ormskirk.** — VERANDAH.—The Guardians of Ormskirk Union invite tenders for extending the verandah at their sanatorium on the Workhouse premises. Specification from Mr. J. Dod, architect, D16, Exchange-buildings, Liverpool.

DECEMBER 4. — **Sheffield.**—REPAIRS.—The Sheffield E.C. invite tenders for plumbers' and glaziers' work required for general repairs during the year 1914. Specifications, etc., at the office of the E.C., Leopold-street.

DECEMBER 4. — **Southend.**—SWIMMING-BATH.—The Corporation of Southend-on-Sea invite tenders for the erection of a swimming-bath, including the steelwork construction and other works, on the Western Esplanade, Southend-on-Sea. Specification, etc., of Mr. Ernest J. Elford, M.Inst.C.E., Municipal Buildings, Clarence-road, Southend-on-Sea. Deposit, £2 2s.

DECEMBER 5. — **Dublin.** — REPAIRS, ETC.—The Managing Committee of the Charitable Infirmary, Jervis-street, Dublin, invite tenders for repairs and other work to be executed at 126, Upper Abbey-street. Specification, etc., of Messrs. William H. Byrne & Son, architects, 20, Suffolk-street, Dublin.

DECEMBER 5.—**Newcastle-on-Tyne.**—SHELTER.—The Town Moor and Parks Committee of the Council invite tenders for the erection of a bowling-green shelter at the Walker-road Recreation Ground. Specification, etc., at the City Engineer's Office, Town Hall.

DECEMBER 5. — **Trowbridge.**—OUTBUILDINGS.—The Wilts C.C. invite tenders for erection of outbuildings, etc., at Westwood, near Trowbridge. Specifications, etc., of Mr. J. George Powell, County Surveyor, Trowbridge.

DECEMBER 5. — **Warrington.**—BOILER-HOUSE, ETC.—The Warrington Corporation invite tenders for the erection of boiler-house and chimney at Evelyn-street Schools. Specifications, etc., at the office of the Borough Surveyor, Town Hall.

DECEMBER 5.—**Wootton Bassett.**—ALTERATIONS, ETC.—The Wilts C.C. invite tenders for alterations, additions, and repairs to farm buildings and cottages at Bushton, Cliffe Pypard, near Wootton Bassett. Specifications, etc., of Mr. Geo. Powell, County Surveyor, Trowbridge.

DECEMBER 6. — **Beverley.**—ALTERATIONS.—The Standing Joint Committee of the East Riding invite tenders for alterations to house adjoining the East Riding Sessions House. Specification, etc., of the County Surveyor, Beverley.

DECEMBER 6.—**Camborne.**—SCHOOL EXTENSION.—The Cornwall E.C. invite tenders for the extension of Camborne County School for Girls. Specification, etc., of Mr Sampson Hill, Architect to the Committee, Green-lane, Redruth. Deposit, £1 1s.

DECEMBER 6.—**Castletown.**—PAROCHIAL HOUSE.—For additions and improvements to Parochial House, Castletown, Kilpatrick, for the Rev. John Corcoran, P.P. Specifications at the office of the architect, Mr. W. A. Scott, A.R.H.A., A.R.I.B.A., 45, Mountjoy-square, Dublin.

DECEMBER 6.—**Glasgow.**—HOSPITAL EXTENSION.—The Corporation invite offers for the following works required in connection with the proposed extension to Ruchill Hospital, viz.:—(1) Brickwork; (2) wrightwork; (3) slater work; (4) plumber work; (5) plaster work; (6) tilework; and (7) painter work. Specifications at the Office of Public Works, City-chambers, 64, Cochrane-street.

DECEMBER 6.—**Lewes.**—SCHOOL.—The E.C. invite tenders for the erection of elementary school for 160 scholars in Western-road, St. Anne's. Specification, etc., of Mr. E. H. Fuller, architect, 19, High-street, Lewes. Quantities, deposit £2 2s.

DECEMBER 8. — **Barnes.** — BUILDINGS. — The U.D.C. of Barnes invite tenders for the erection of buildings for slab-making plant at their Refuse Destructor, Town Mead, Mortlake, S.W. Specification, etc., of the Engineer and Surveyor, at the Council House.

DECEMBER 8. — **Chobham.** — ARTISANS' DWELLINGS.—The Chertsey R.D.C. invite tenders for the erection of sixteen artisans' dwellings in the parish of Chobham, viz.:—Two blocks of four cottages each at Burrow Hill, and two similar blocks at West End. Specification and particulars at the offices of the Clerk to the Council, Mr. H. E. Paine, 80, Guildford-street, Chertsey. Deposit, £2.

DECEMBER 8.—**Helsby.**—FARM BUILDINGS.—The Chester Small Holdings and Allotments Committee invite tenders for the erection of one set of farm buildings, and for alterations, additions, and repairs to existing premises on the Manley Estate. Specifications, etc., of Mr. W. H. Lancaster, County Estate Office, 49, Northgate-street, Chester.

DECEMBER 9. — **Birmingham.**—SCHOOL CLINIC.—The Birmingham E.C. invite tenders for the erection of a school clinic in Great Charles-street. Mr. Jno. Arthur Palmer, Secretary of Education, Council House, Margaret-street, Birmingham. Deposit, £2.

DECEMBER 9. — **Birmingham.**—OFFICES, ETC.—The Great Western Railway Company invite tenders for the construction of goods offices, mess-rooms, etc. at Moor-street, Birmingham, and cattle pens, etc., at Bordesley. Specifications of the Resident Engineer at Snow Hill, Birmingham.

DECEMBER 9.—**East Hetton.**—SCHOOL.—The Durham Education Department invite tenders for erection of new infants' school (for about 150 children), and alterations and additions, at East Hetton. Specification, etc., of Mr. W. Rushworth, Shire Hall, Durham.

[Those with an asterisk (*) are advertised in this issue.]

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

DECEMBER 9. — **Hayes.** — STABLE.—The Great Western Railway Company invite tenders for the erection of a stable at Hayes, Middlesex. Specification, etc., at the office of the Engineer at Paddington Station.

DECEMBER 9. — **Swansea.**—ALTERATIONS.—The Great Western Railway Company invite tenders for alterations to goods shed at Swansea High-street Station. Specification, etc., at the office of the Engineer at Neath Station.

DECEMBER 10. — **Ossett.**—EXTENSION OF BUILDINGS, ETC.—The Gas Committee invite tenders for the following work:—(1) Draining the site; (2) boundary wall and weigh offices; (3) constructing and paving roadway, and coke yard; (4) constructing underground brick tank for tar and liquor; (5) railway siding; (6) railway weighing machine and cart weighing machine. Specifications, etc., of Mr. A. E. Mottram, Engineer and Manager, Gasworks, Ossett.

DECEMBER 12.—**Blaenrhondda.**—HOUSES.—For the erection of 200 semi-detached houses at the Fernhill Garden Village, Blaenrhondda, for the Fernhill Garden Village, Ltd. Specifications and particulars of Mr. W. Beddoe Rees, architect, 3, Dumfries-place, Cardiff. Deposit, £1 1s.

DECEMBER 12. — **Gorleston-on-Sea.** — STOREROOM, ETC.—The Governors of the East Anglian Institution for Blind and Deaf Children invite builders to tender for the erection of covered ways, storeroom, etc. Specification at the office of the architect, Mr. J. Burton, 11, Bank Plain, Norwich. Quantities of Mr. D. O. Holme, Clerk, Castle-chambers, Norwich. Deposit, 10s. 6d.

DECEMBER 13. — **Dartford.** — LIBRARY. — The U.D.C. of Dartford invite tenders for the erection of a public library. Specifications, etc., of the Surveyor to the Council, Council Offices, Dartford. Deposit, £3 3s.

DECEMBER 13.—**Durham.**—HALL AND OFFICES.—The Committee of the Durham Miners' Association invite sole tenders for the erection and completion of new hall and offices and agents' houses at Red Hills, Durham City. Plans, etc., of Mr. H. T. Gradon, A.R.I.B.A., architect, 22, Market-place, Durham. Deposit, £3 3s

DECEMBER 13. — **Tenterden.** — COTTAGES.—The T.C. of Tenterden invite tenders for erecting two cottages at Isemonger-road, Tenterden. Specification, etc., of Mr. W. L. C. Turner, Borough Surveyor, Town Hall, Tenterden.

DECEMBER 15.—**Keimaneigh.**—SCHOOL.—Board of Public Works invite tenders for the erection and furnishing of National School buildings at Keimaneigh, Co. Cork. Plans and specification can be seen at Bantry R.I.C. Barracks. Mr. H. Williams, Secretary, Office of Public Works, Dublin.

DECEMBER 15.—**Newcastle-on-Tyne.**—SHED.—The Trade and Commerce Committee of the Council invite tenders for the erection and maintenance of a single-story transit shed, about 1,160 sq. yds. in area. The contract will include steelwork, corrugated-iron gables and roof covering, glazing, sliding doors, etc. Specification, etc., of the City Engineer, Town Hall, Newcastle-upon-Tyne. Deposit, £2 2s.

* DECEMBER 18. — **Chertsey.** — ARTISANS' COTTAGES.—The Chertsey U.D.C invite tenders for erection of sixteen cottages.

DECEMBER 17. — **Silloth.** — COURTHOUSE, ETC.—For the whole or various trades for new courthouse, police-station, and lock-up, Silloth. Mr. Geo. Dale Oliver, F.R.I.B.A., County Architect, Carlisle.

NO DATE.—**Dublin.**—COLLEGE ADDITIONS.—The Governing Body of University College, Dublin, invite tenders for the erection of buildings in connection with the College at Earlsfort-terrace, in the City of Dublin, in accordance with plans and specifications prepared by Mr. R. M. Butler, F.R.I.B.A., 23, Kildare-street, Dublin, of whom quantities, etc., may be obtained. Deposit, £5.

NO DATE.—**Harrogate.**—BUSINESS PREMISES.—For pulling-down and rebuilding business premises in Parliament-street and Oxford-street, Harrogate, for Messrs. W. H. Smith & Son. Specifications, etc., of Mr. H. J. Honfe, architect, Albert-chambers, Harrogate.

NO DATE.—**North Shields.**—For erection of a new Y.M.C.A. building for the Y.M.C.A. Committee. Plans, etc., from Mr. A. B. Plummer, F.R.I.B.A., 13, Grey-street, Newcastle-on-Tyne.

NO DATE. — **Torquay.** — For erection of a detached residence for Mr. T. Withington. Plans, etc., with Mr. F. G. Moore, architect, 9, Fleet-street, Torquay.

NO DATE. — **Torquay.** — For erection of a detached residence at Barton. Plans with Mr. F. G. Moore, architect, 9, Fleet-street, Torquay.

ENGINEERING, IRON, AND STEEL.

DECEMBER 1.—**Rotherham.**—PUMP SETS, ETC.—The Rotherham Corporation invite tenders for two automatically-controlled electrically-driven motor and pump sets, each set capable of delivering 1,800 gallons per minute against a head of 25 ft. Mr. E. B. Martin, M.Inst.C.E., Borough Engineer, Rotherham.

DECEMBER 2. — **Birkenhead.** — ELECTRIC MACHINERY.—The Corporation of Birkenhead invite tenders for the supply of electric motors and motor starters from ¼ to 15 horse-power, which may be required during the twelve months ending December 31, 1914. Specifications, etc., of the Borough Electrical Engineer, Mr. G. P. Shallcross, Corporation Electricity Works, Craven-street, Birkenhead. Deposit, £1 1s.

DECEMBER 2.—**Clayton.**—LAUNDRY MACHINERY.—The North Bierley B.G. invite tenders for laundry machinery and fittings and 40-b.h.p. steam-engine, required in connection with the laundry extension at the Union Workhouse, Clayton, near Bradford. Particulars from the Board's Architects, Messrs. J. Harper Bakes & Son, Calverley-chambers, Victoria-square, Leeds.

DECEMBER 2.—**Hyde.**—PIPES.—The Hyde Corporation invite tenders for the supply of iron pipes and specials required during the period ending March 31, 1915. Form of tender of the Borough Surveyor, Town Hall, Hyde.

DECEMBER 3. — **India.** — STORES. — The East Indian Railway Company invite tenders for the supply of copper ingots, spring steel, metals, as per specification to be seen at the company's offices, Nicholas-lane, London, E.C.

DECEMBER 3. — **King's Langley.** — KITCHEN APPLIANCES. — The Metropolitan Asylums Board invite tenders for the installation of a new steam-engine and kitchen mechanical appliances, etc., at Leavesden Asylum, King's Langley, Herts, in accordance with specifications, etc., prepared by Mr. W. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief. Specification, etc., of the Board, Embankment, E.C. Deposit, £1.

DECEMBER 3. — **London.**—ELECTRICAL INSTALLATION.—The London C.C. invite tenders for an electrical installation at the Chester-road Elementary School, St. Pancras, N.W., comprising about 225 lighting points. Specifications, etc., on application to the Chief Engineer of the Council, Mr. G. W. Humphreys, at the County Hall, Spring-gardens, S.W. Deposit, £1.

DECEMBER 4.—**Rawmarsh.**—VENTILATION.—The Rawmarsh District Sub-Committee invite tenders for improvement to ventilation at the Rawmarsh Central Junior Council School. Specification, etc., of Mr. S. Marshall, Education Offices, Swinton, Rotherham.

DECEMBER 4. — **Southend-on-Sea.**—PIER TRAMWAY.—The Corporation invite tenders for supply and erection of cast-iron pipes, girders, joists, etc., required in connection with the extension of the pier tramway. Quantities, etc., of Mr. E. J. Elford, Borough Engineer, Town Hall. Deposit, £2 2s.

DECEMBER 6.—**Windsor.**—COOKING APPARATUS, ETC.—The Windsor Guardians invite tenders for the renewal of the steam cooking apparatus to the kitchen department, also for the provision of a steam-engine for pumping, and alteration of the water supplies to the laundry building at the Windsor Union Workhouse, Old Windsor, in accordance with specification, etc., by the architects, Messrs. Edgington & Spink, Windsor, of whom further particulars may be obtained.

DECEMBER 8. — **Brighton.**—RAILS. — The Corporation invite tenders for the supply of 240 tons of British standard No. 4 rails for the Tramways Department. Mr. H. Talbot, Town Clerk, Brighton.

DECEMBER 9. — **Aberdeen.**—STEEL BUILDINGS.—The T.C. invite tenders for the supply and erection of steel engine-house, lime store, and other contingent works. Specification, etc., on application at the Water Engineer's Office, 41½, Union-street, Aberdeen.

DECEMBER 9. — **Hastings.** — PIPES.—The Corporation of Hastings invite tenders for the supply and delivery of about 1,250 yds. of 6-in., 925 yds. of 4-in., and 1,640 yds. of 3-in. cast-iron socket pipes and about 4 tons of irregulars. Specification, etc., of the Borough Engineer, Mr. P. H. Palmer, M.Inst.C.E., Town Hall, Hastings.

DECEMBER 9. — **India.** — WHEELS, ETC. — The Bombay, Baroda, and Central India Railway Company Invite tenders for the supply of wheels and axles and wheel centres. Specification of Mr. C. Crommelin, Secretary, Gloucester House, 110, Bishopsgate, London. Deposit, £1.

DECEMBER 16. — **Shoreditch.**—ELECTRIC PLANT.—The Shoreditch B.C. invite tenders for sub-station plant, comprising transforming and converting plant, together with the necessary starting and controlling apparatus and connections. Specification, etc., of Mr. C. Newton Russell, Shoreditch Electricity Department, Coronet-street, Shoreditch, N. Deposit, £5 5s.

DECEMBER 22. — **Billingham Beck.**—RAILWAY.—The North-Eastern Railway Company invite tenders for the construction of a railway, about three miles in length, commencing by a junction with the Company's Leeds Northern Railway, near Stockton Station, and terminating by a junction with the Company's Billingham Beck branch, near Bellingham Beck. The works comprise a double line railway, with about 136,000 cubic yds. of earthworks, and bridges, which require about 154 tons of steelwork, beams, etc. Specification, etc., at the office of Mr. C. F. Bengough, the Company's Engineer at York.

JANUARY 13, 1914.—**Brisbane.**—AERIAL ROPEWAY.—The Metropolitan Water and Sewerage Board, Albert-street, Brisbane, Queensland, invites tenders for the supply and delivery of material and machinery for an aerial ropeway, in accordance with plans and specification, which may be seen in the office of the Agent-General for Queensland, 409-410, Strand, London, W.C.

NO DATE.—**Llanbedrog.**—JETTY.—For extending the timber jetty at Cambrian Quarries, Llanbedrog. Piles and timber will be provided. Manager, Cambrian Granite Quarries, Llanbedrog.

FURNITURE, PAINTING, MATERIALS, etc.

DECEMBER 1.—**Gildersome.**—ROAD MATERIAL.—The Gildersome U.D.C. invite tenders for the supply of granite, tarred slag, kerbs, flags, and setts required during the next twelve months. Forms of tender of Mr. W. Wilby, Surveyor, Council Offices, Gildersome.

DECEMBER 1. — **Nottingham.** — STORES.—The Nottingham B.G. invite tenders for supplies to their various institutions for one year from January 1, including engineers' materials, ironmongery, plumbers' materials, etc. Forms obtainable at the Poor Law Offices, Shakespeare-street, Nottingham.

DECEMBER 1. — **Nottingham.**—PAINTING.—The E.C. invite tenders for internal cleaning and painting at the following Council schools:—Alfreton-road, Clarendon-street (including deaf mute and technical centres), and Old Basford (Percy-street). Specifications from the City Architect, Mr. A. Dale, Guildhall. Deposit, £1.

DECEMBER 1. — **Ramsbottom.**—PAINTING.—For painting, etc., the inside of the U.M.C. Patmos schoolroom, Ramsbottom. Specifications of Mr. John Taylor, 183, Whalley-road, Shuttleworth.

DECEMBER 1. — **Wombwell.**—ROAD MATERIAL.—The Wombwell U.D.C. invite tenders for the supply, during the twelve months ending December 31, 1914, of the following materials, viz.:—800 tons granite, 200 tons whinstone, 500 tons blue rock limestone, 1,000 tons tarred dross, 1,200 tons lump slag and rejections, 300 tons basalt, 150 tons dross chippings, 50 tons limestone asphalt, 40 tons English cement, and various quantities of setts, kerbing, channelling, flags, and stoneware pipes. Forms of tender from Mr. W. Quest, Surveyor to the Council, Town Hall, Wombwell.

DECEMBER 1. — **Worcester.** — MATERIALS.—The Corporation invite tenders for the supply of the following and other materials during the year 1914, namely:—Stone of various kinds, gravel and sand, bricks and kerbs, manhole covers, stoneware pipes, etc., cast-iron pipes, etc. Forms of tender from the City Engineer's Office, Guildhall, Worcester.

DECEMBER 2. — **Halifax.** — PAINTING. — The Markets Committee invite tenders for the execution of the following work:—Painting outside of warehouse, Albion-street and Westgate; painting of railings around Victoria Cattle Market and Fair Ground. Specification of Mr. James Lord, M.Inst.C.E., Borough Engineer, Town Hall, Halifax. Deposit, £1 1s.

DECEMBER 2. — **Hyde.** — LEAD PIPES, ETC.—The Stores Committee invite tenders for the supply of lead pipes and block tin required during the period ending March 31, 1915 Form of tender of the Borough Surveyor, Town Hall, Hyde.

DECEMBER 2. — **Manchester.** — LATHE. — The Tramways Committee of the Manchester Corporation invite tenders for the supply of a car wheel tyre turning lathe. Specification of Mr. J. M. McElroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester.

DECEMBER 3. — **Burton-on-Trent.** — PAINTING, ETC.—The T.C. invite tenders for internal cleaning, painting, decorating, etc., of Richmond-street-cottages as required during the year ending December, 1914. Particulars of Mr. G. T. Lynam, Borough Engineer, Town Hall.

DECEMBER 3.—**Bury St. Edmunds.**—PAINTING, ETC.—The Corporation invite tenders for painting, etc., the interior of Corn Exchange. Mr. W. D. Harding, Borough Surveyor, Town Hall.

DECEMBER 3. — **Manchester.** — SCHOOL FURNITURE.—The Manchester E.C. invite tenders for the supply of school furniture at the George Leigh-street Municipal School, Ancoats, and the Grange-street Municipal School, Bradford, Manchester. Specification at the offices in Deansgate, Manchester. Deposit, £1 1s.

DECEMBER 3.—**Mexborough.**—The Governors of Mexborough and District Secondary School invite tenders for the colouring and painting of a portion of the school, as set out in the specification, which can be seen at the school. Mr. Isaac W. Chipp, Clerk to the Governors.

DECEMBER 3.—**West Hartlepool.**—CARS, ETC.—The West Hartlepool Corporation invite tenders for the supply of:—(A.) (1) Car bodies and trucks; (2) electrical equipments for car; (B.) (3) points and crossings. Specifications, etc., of Mr. Chas. Burgess, General Manager and Engineer, Tramway Depôt, Greenland, West Hartlepool.

* DECEMBER 4. — **St. George-in-the-East.**—REDECORATION.—The Guardians of St. George-in-the-East invite tenders for redecoration works at the Infirmary.

DECEMBER 5. — **Leicester.**—STORES.—The Corporation of Leicester invite tenders for the supply of the undermentioned materials for the year 1914:—Iron and steel; ironmongery, etc.; oils, paints, and sundries; timber (English and foreign); sewerage ironwork, etc.; bricks; Portland cement; stoneware pipes; granite, breedon, gravel, etc. Forms of tender, etc., of Mr. E. George Mawbey, M.Inst.C.E., Borough Engineer and Surveyor, Borough Surveyor's Office, Town Hall, Leicester. Deposit, 10s.

DECEMBER 5. — **Ossett.** — PAINTING.—For redecorating the interior of the United Methodist Church, Dale-street, Ossett. Specifications at Mr. Joseph Gomersall's, 8, Church-street, Ossett.

DECEMBER 6.—**South Hetton.**—STORES.—The South Hetton Coal Company, Ltd., invite tenders for next year's supply of iron castings, wire rope, and other colliery stores, except oil and timber. Specification, etc., from Mr. J. R. Lambert, South Hetton, near Sunderland.

[Those with an asterisk (*) are advertised in this issue.]

FURNITURE, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

DECEMBER 8.—**Bedford.**—SANITARY DUSTBINS.—The Public Health Committee of the Corporation invite tenders for supplying 100 strong galvanised-iron sanitary circular dustbins, about 24 in. deep by 18 in. diameter, fitted with the usual handles and dome-shaped covers. Mr. N. Greenshields, A.M.Inst.C.E., Borough Engineer and Surveyor, Borough Engineer and Surveyor's Office, Bedford.

DECEMBER 8.—**Middlesbrough.**—STORES.—The Tees Conservancy Commissioners invite tenders for the supply of stores and materials for the year ending December 31, 1914, as under:—Timber, castings (steel and iron), bolts and nuts, brass and copper work, cement, oils and paints, ropes, ironmongery, etc. Mr. John H. Amos, General Manager, Head Offices, Middlesbrough.

DECEMBER 8. — **Rhondda.** — STORES. — The Rhondda U.D.C. invite tenders for stores, including bricks; stoneware pipes for sewers and surface-water drains; ironmongery; iron castings (street gratings, manhole covers, etc.); paving, kerb, channel, pitching, and coping; Portland cement and hydraulic lime. All for the period ending December 31, 1914. Specifications of Mr. E. Taylor, Deputy Engineer and Surveyor, Council Offices, Pentre, Rhondda, Glam.

DECEMBER 8.—**Romford.**—ROAD MATERIAL.—The Romford R.D.C. invite tenders for the supply of best quality blue Guernsey granite (only) as follows:—914 tons broken to 2-in. cube, 664 tons broken to 1½-in. cube, and 122 tons broken to ¾-in. cube. Specification of Mr. George Lapwood, Highway Surveyor, Victoria-chambers, Romford.

DECEMBER 9.—**Blandford.**—ROAD MATERIAL.—The T.C. of Blandford, Dorset, invite tenders for the supply of 100 yds. of picked flint or 100 tons of 2-in. broken roadstone. Mr. C. W. Symes, Town Clerk, Blandford.

DECEMBER 9. — **Chelmsford.** — STORES.—The Committee of Visitors of the Essex and Colchester Asylums invite tenders for materials for six months, including ironmongery, electrical sundries, engineers' goods, cement, timber, building materials, and oils and paints. Mr. H. H. Gebb, Clerk to Visitors, New-street, Chelmsford.

DECEMBER 10.—**Dublin.**—STORES.—The Dublin Port and Docks Board invite tenders for stores from January 1 next to December 31, 1914, including foreign timber, iron castings, etc.; ironmongery, etc.; mineral oils, nails, etc.; paints, oils, etc.; paving sets, planks and deals, Portland cement, etc. Mr. N. Proud, Secretary, Port and Docks Office, Westmoreland-street, Dublin.

DECEMBER 10.—**Dublin.**—STORES.—The Dublin Port and Docks Board invite tenders for chains and cordage. Mr. N. Proud, Secretary, Port and Docks Office, Westmoreland-street, Dublin.

* DECEMBER 10. — **Islington.**—ROUNDWOOD.—The Islington Guardians invite tenders for 50 cubic fathoms of roundwood for firewood.

DECEMBER 10.—**Maidstone.**—ROAD MATERIALS.—The Bridges and Roads Committee of the Kent C.C. invite tenders for the supply of materials, to be delivered between April 1, 1914, and March 31, 1915, including 70,000 tons (more or less) of broken road stone. Tenders are also invited for 16,000 tons (more or less) of tarred macadam, and special forms for the supply of this material will be furnished upon application. Also for 5,000 yds. (more or less) of surface-picked or grubbed flints and 2,000 yds. of Kent rag. Specification, etc., of the County Surveyor, Maidstone.

DECEMBER 11.—**Folkestone.**—MATERIALS.—The Guardians of Elham Union invite tenders for the supply of ironmongery, brushes and brooms, oils and colours, and petroleum spirit. Particulars of Mr. E. Lovick, Clerk to the Guardians, 29, Bouverie-square, Folkestone.

DECEMBER 15.—**Trowbridge.**—ROAD MATERIAL.—The Wilts C.C. invite tenders for one or three years' supply of road metal from April 1. Particulars of Mr. J. G. Powell, County Surveyor, Trowbridge.

DECEMBER 15. — **Trowbridge.** — TOOLS. — The Wilts C.C. invite tenders for tools for work on 316 miles of main road, for one and three years. Specification, etc., of Mr. J. G. Powell, County Surveyor, Trowbridge.

DECEMBER 20.—**Macclesfield.**—MATERIALS.—The Corporation invite tenders for the supply of macadam kerbs, setts, drain pipes, castings, cement, bricks, ironmongery, iron and steel, timber, hardwood, paints and oils, and disinfectants, during the year ending December 31, 1914. Forms of tender at the Borough Engineer's Office.

NO DATE. — **Cardiff.** — BRICKS. — For 100,000 common bricks per week, delivered in trucks near Newport. Welsh Garden Cities, Ltd., 3, Dumfries-place, Cardiff.

NO DATE.—**Ryhope.**—STORES.—The Ryhope Coal Company, Ltd., invite tenders for the supply of oils, brass, metal and steel castings, grease, wire ropes, india-rubber goods, iron, nails, shovels, etc., for the twelve months ending December 31, 1914. Forms of tender at the Colliery Office, Ryhope, near Sunderland

NO DATE. — **Whitehaven.** — PAINTING. — The Whitehaven Education Committee invite tenders for colouring and painting the interior of the Earl of Lonsdale's and Trinity Church of England Schools. Specifications of the Secretary, Town Hall, Whitehaven.

ROADS, SANITARY AND WATER WORKS.

DECEMBER 1.—**Doncaster.**—STREET WORKS.—The R.D.C. of Doncaster invite tenders for the widening and reconstruction of Park-road (formerly Corpse-lane), Owston, a distance of about 630 yds., including excavation, kerbing, channel, formation of roadway, foundation, surface-water drains, etc. Particulars from Mr. W. R. Crabtree, Surveyor, Union Offices, High-street, Doncaster.

DECEMBER 1.—**Doncaster.**—STREET WORKS.—The R.D.C. of Doncaster invite tenders for the widening and reconstruction of Owston-road, Skellow, a distance of 300 yds., including excavation, kerbing, channel, formation of roadway, foundation, surface-water drains, etc. Particulars from Mr. W. R. Crabtree, Surveyor, Union Offices, High-street, Doncaster.

DECEMBER 1.—**Gower.**—ROADS.—The Gower R.D.C. invite tenders for widening certain portions of the road leading from Three Crosses to Dunvant, for a total length of 160 yds. Specifications, etc., of Mr. H. J. Ind, Clerk, Central-buildings, Fisher-street, Swansea. Deposit, £1 1s.

DECEMBER 1.—**Penarth.**—STREET WORKS.—The Penarth U.D.C. invite tenders for private improvement (street) works in Agnes-street, Bedwas-place, and Rudry-street. Specifications, etc., of Mr. Edgar J. Evans, A.M.Inst.C.E., Surveyor, Council Offices, Penarth.

DECEMBER 1.—**Swansea Gower.**—ROAD WIDENING.—The Swansea Gower R.D.C. invite tenders for widening road from Three Crosses to Duvant, a length of 160 yds. Specifications, etc., of Mr. H. J. Ind, Clerk, Central-buildings, Fisher-street, Swansea. Deposit, £1 1s.

DECEMBER 2.—**Chester.**—WATERWORKS.—The Chester R.D.C. invite tenders for works of water supply to the parish of Dunham-on-the-Hill, near Chester, consisting of about 4,450 yds. of 4-in. and 3-in. cast-iron pipes, including laying same, valves, hydrants, etc. Specification, etc., of Mr. H. F. Russell, Engineer, 19, South John-street, Liverpool. Deposit, £1 1s.

DECEMBER 2.—**Gosport.**—MAIN.—The Gosport and Alverstoke U.D.C. invite tenders for the supply and fixing complete of a new steel steam main, including all necessary valves, etc., at their air-compressing station, Westfield, Gosport. Specification from the Surveyor to the Council. Deposit, £1 1s.

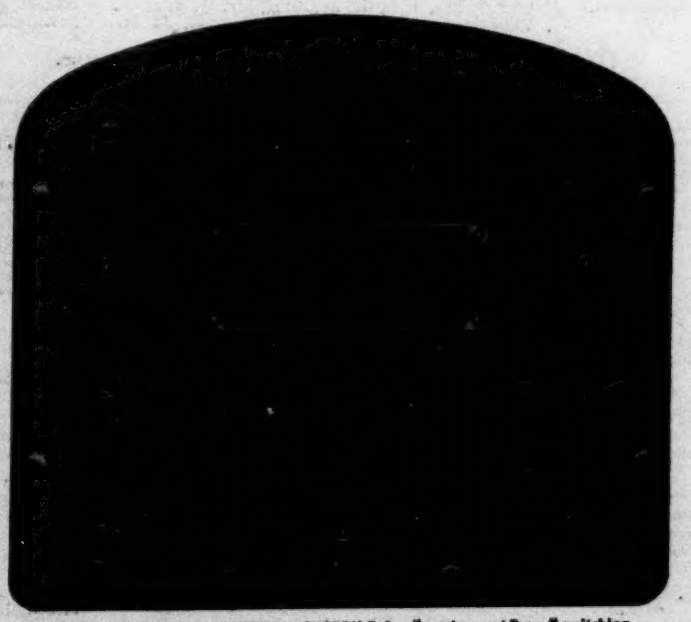
[Those with an asterisk (*) are advertised in this issue.]

ST. ANDREW'S HOSPITAL, NORTHAMPTON.

"What I like about your System is that the building is well heated without discomfort or headache. It is also economical. During the first three years we used this System our coal and water bill was between

£800 and £900

a year less than formerly."



"NESBIT CENTRAL CONTROL SYSTEM" for "cutting out" or "switching on" heat to various apartments from one centre . . . (*Patented.*)

WESLEYAN HALL, WESTMINSTER.

"Messrs. ASHWELL & NESBIT, Ltd., applied the 'Nuvacuumette' System to the Deptford Town Hall, and it was so satisfactory that it was decided to adopt it for the New Wesleyan Hall, Westminster, improved by the addition of the 'Nutomatic' System."

NO matter what building you have under consideration, we can heat it thoroughly and efficiently. We have a System that will just meet your requirements. Let us send you our illustrated brochure, "Artificial Heating Automatically Controlled," which explains why our Systems are more economical and reliable than hot water or other "systems."

ASHWELL & NESBIT, Ltd., LEICESTER. LIVERPOOL, GLASGOW, LONDON, MANCHESTER.

ROADS, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

DECEMBER 2. — **Nuneaton.** — SEWERS. — The Nuneaton R.D.C. invite tenders for the construction of about 1,800 yds. of 9-in. earthenware and 170 yds. of 12-in. cast-iron pipe sewers, with sewage purification works and other matters appurtenant thereto, in the parish of Arley, in accordance with plans prepared by Mr. F. C. Cook, A.M.Inst.C.E., Engineer to the Council. Specification, etc., of Mr. C. Blakeway, Clerk, 2, Church-street, Nuneaton. Deposit, £2 2s.

DECEMBER 2.—**Tottenham.**—STREET WORKS.—The Tottenham U.D.C. invite tenders for making-up Tariff-road. Particulars of Mr. W. H. Prescott, M.Inst.C.E., Town Hall, Tottenham. Deposit, £5, and 10s. 6d. for quantities.

DECEMBER 3.—**Hove.**—PAVING.—For executing paving and other works in York-avenue. Further particulars of the Borough Surveyor, Mr. H. H. Scott, Town Hall, Hove.

DECEMBER 4. — **Chelmsford.** — FILTER. — The R.D.C. of Chelmsford invite tenders for delivering and maintaining for a period of six months at their Great Baddow Waterworks mechanical filters, capable of filtering 10,000 gallons of water per hour. Specification, etc., of Mr. James Dewhirst, A.M.Inst.M.E., the Council's Engineer, Waterloo-lane, Chelmsford.

DECEMBER 5. — **Manchester.** — SANITARY.—The Corporation invite tenders for the execution of sanitary alterations at 2 to 18, Robert-street, and 14 to 16, New York-street, Ardwick. Specifications, etc., of the Manager of the Drainage Department.

DECEMBER 5. — **Newcastle-on-Tyne.** — STREET WORKS.—The Town Moor and Parks Committee invite tenders for (No. 1) taking-up, redressing, and refixing the existing stone base, etc., of the palisading; (No. 2) supplying and fixing dwarf standards and guard rail to stone base. Specification, etc., at the City Engineer's Office, Town Hall, Newcastle-upon-Tyne.

DECEMBER 9. — **Maldens and Combe.** — STREET WORKS.—The U.D.C. invite tenders for (1) making-up Selwyn-road and Melrose-gardens; and (2) paving with artificial stone slabs the footways of the same roads. Specifications, etc., of Mr. R. H. Jeffes, Engineer and Surveyor, at the Municipal Offices, New Malden. Deposit, £2 2s. and £1 1s. respectively.

DECEMBER 9.—**Shoreditch.**—REFUSE REMOVAL.—The Shoreditch B.C. invite tenders for the removal by barge from their De Beauvoir Wharf shoot, in Kingsland Basin, Regent's Canal, Kingsland-road, N., of street sweepings and other refuse, for one, two, or three years, from December 19, 1913. Minimum quantity, 10,000 tons per annum. Mr. J. A. D. Milne, Town Clerk, Shoreditch Town Hall, Old-street, E.C.

DECEMBER 10.—**Chippenham.**—BORING.—The Chippenham R.D.C. invite tenders for making a boring at Langley Burrell, near Chippenham, Wilts, and for testing the yield of water therefrom, and for supplying all necessary temporary plant therefor. Specification, etc., of Mr. T. J. Moss-Flower, C.E., 28, Victoria-street, Westminster, S.W., or Carlton-chambers, Bristol. Deposit, £3 3s.

DECEMBER 12.—**Blaenrhondda.**—ROADS, ETC.—For carrying out the work of road-making, laying drains, etc., at the new Fernhill Garden Village, Blaenrhondda. Particulars of Mr. W. Beddoe Rees, architect, 3, Dumfries-place, Cardiff.

DECEMBER 12.—**Totnes.**—SEWERS AND WATER MAINS.—The Totnes T.C. invite tenders for laying 56 lin. yds. of 9-in. stoneware sewer, and building manholes, etc., at Station-road, Totnes; also for laying 321 lin. yds. of 4-in. water mains, etc., at the same place. Specifications, etc., of Mr. W. F. Tollit, Architect and Surveyor, Totnes.

DECEMBER 12.—**Totnes.**—SEWER WORKS, ETC.—The T.C. of Totnes invite tenders for laying 250 yds. of 6-in. stoneware sewer, building manholes, etc., at Jubilee-road, also for laying 183 yds. of 2-in. and 3-in. water main at Maudlin-road. Specifications, etc., of the Borough Surveyor, Mr. Andrew Warren. Deposit, 10s. 6d.

DECEMBER 13.—**Plymouth.**—BOWLING GREEN.—The Corporation invite tenders for remaking the bowling green on the Hoe with best quality seawashed Cumberland or Scotch turf. Specification of Mr. James Paton, Borough Engineer and Surveyor, Municipal Offices, Plymouth.

DECEMBER 15.—**Trowbridge.**—STEAM ROLLING.—The Wilts C.C. invite tenders for steam rolling on 316 miles of main road. Particulars of Mr. J. George Powell, County Surveyor, Trowbridge.

DECEMBER 16.—**Todmorden.**—DRAINAGE.—The Todmorden R.D.C. invite tenders for the supply of materials, and the construction of about 821 lin. yds. of 9-in. and 6-in. cast-iron pipes and 952 lin. yds. of 9-in. and 6-in. fireclay pipe sewers, together with manholes, flushing-chamber, cast-iron hatch-boxes, etc., complete Specification, etc., of Messrs. C. H. Marriott, Son, & Shaw, civil engineers, Church-street-chambers, Dewsbury. Deposit, £2 2s.

DECEMBER 17.—**Wokingham.**—STREET WORKS.—The Corporation invite tenders for the execution of private street works in the following roads:—(1) Goodchild-road, approximate length, 1,124 ft.; (2) School-road, approximate length, 496 ft.; (3) Wescott-road, approximate length, 1,133 ft. Specifications, etc., of Mr. C. W. Marks, M.I.M.Cy.E., M.R.S.I., Borough Engineer and Surveyor, Town Hall, Wokingham. Deposit, £1.

DECEMBER 17. — **Ystradgynlais.** — SEWERAGE WORKS.—The Ystradgynlais R.D.C. invite tenders for the execution of a scheme of sewerage and sewage disposal for the parish of Ystradgynlais Lower. Specification, etc., at the office of Mr. Thomas Watkins, the Council's Surveyor, Ystradgynlais, or of the engineer, Mr. G. Swayne, 1, Victoria-street, Westminster. Deposit, £5 5s.

JANUARY 10, 1914. — **Crompton.** — REFUSE DESTRUCTOR. — The Crompton U.D.C. invite schemes and tenders for the provision of refuse destructor and steam disinfector, with requisite buildings, from firms experienced in the work. Specifications of Mr. F. F. Garteside, Clerk and Surveyor, Town Hall, Shaw, near Oldham. Deposit, £2 2s.

NO DATE.—**Market Bosworth.**—PAVING.—The Market Bosworth R.D.C. invite tenders for paving about 140 yds. of kerb and channel at Bagworth. Specifications on application to the Highway Surveyor, Mr John Thorpe, Market Bosworth.

Public Appointments.

* DECEMBER 8. — HEATING DRAUGHTSMAN.—The Metropolitan Asylums Board invite applications for the above post. Salary, £125 per annum.

* DECEMBER 8. — QUANTITY SURVEYOR. — The Ilford U.D.C. invite applications for the above temporary post.

* DECEMBER 9.—LECTURER AND DEMONSTRATOR IN CIVIL ENGINEERING.—Applications are invited for the above post at the University College, Nottingham. Salary, £150.

* DECEMBER 13. — COUNTY ARCHITECT. — The Essex C.C. invite applications for the above post. Starting salary, £800 per annum.

* DECEMBER 15.—ENGINEERING AND SURVEYING ASSISTANT.—The Hendon U.D.C. invite applications for the above temporary post. Salary at rate of £180 per annum.

* DECEMBER 20. — CLERK OF WORKS. — The Canterbury B.C. invite applications for the above position. Salary, £3 3s. per week.

Auction Sales.

* DECEMBER 3.—**Battersea.**—Messrs. Veryard & Yates will sell by auction, at the Railway Arches, Culvert-road, S.W., 350 lots of building material.

* DECEMBER 3.—**Mortlake and Streatham.**—Messrs. Tyser, Greenwood, & Co. will sell by auction, at the Mart, a freehold building estate and land.

* DECEMBER 4. — **Ealing Green.** — Messrs. Hooker & Webb will sell by auction 350 lots of building material.

* DECEMBER 9.—**Harrow-road.**—Mr. H. W. Smith will sell by auction the stock, machinery, and plant of a joinery manufacturer and builder.

* DECEMBER 10.—**London.**—Messrs. Churchill & Sim will sell by auction, at the Great Hall, Winchester House, Old Broad-street, E.C., an assortment of deals, battens, boards, timbers, etc.

* DECEMBER 16. — **Ware.** — Messrs. J. T. Skelding & Co. will sell by auction, on the premises, builder's stock and plant.

[Those with an asterisk (*) are advertised in this issue.]

LAW REPORTS—*continued from page 594.*

Association, the money should be 9½d.; but the defendant denied that he was a member, and said that the man who had put his name on the list had committed a fraud and a forgery. He also said that he was a member of the Master Builders' Association. As 'nothing further could be done, he placed the matter before his Society. He would never have thought of going into the defendant's employ if he had known the conditions. The wages he had been paid by the defendant when he worked for him before was 8½d. an hour, but there was an award by an arbitrator on October 2, and the rate was now 9½d. He agreed that the defendant protested that he paid the full trade union rate for the London Master Builders' Association.

Mr. Robinson said he would reserve any cross-examination till the plaintiff had proved that the defendant belonged to the Master Decorators' Association.

Mr. Bancroft then went into the box and said he was the District Organiser of the House and Ship Painters' and Decorators' Society. He had heard that one of their members had taken out a summons, and was there to watch the case for the Society. He produced a year-book published for the London Master Builders' Association, which gave the various affiliated associations, and that gave the defendant's name as a member of the London Master Decorators' Association.

Mr. Robinson: That book is no evidence against me.

Judge Smyly: It seems to be simply a collection of names, which may be right and may be wrong. You will have to prove he was a member of the Association, because this is ten months after the issue of the book.

Witness: Our member would not have worked for the defendant if he had not been a member of the Master Decorators' Association.

Judge Smyly: You mean, unless he thought he was a member. The mere fact of his name appearing in a book does not make him a member.

Witness: The Master Builders have never agreed to be bound, and there is nothing even to say that they will pay the 9d. an hour.

Mr. Robinson: The Secretary of the Association is present and will say there is an agreement.

Witness: There is no agreement. The London Master Decorators were associated with the Builders at the time the book was issued.

Mr. Robinson: There are 150 members of the London Master Builders' Association, including some of the largest builders in the trade.

Judge Smyly: I see on looking into this book that he is supposed to be a member of both Associations; he cannot be in both.

Witness: There are Associate members who are in both. There is no agreement with the Master Builders they will not pay the extra rate.

Mr. Robinson: My client has resigned from the Master Decorators' Association; in fact, he only paid one subscription when it started three years ago.

Judge Smyly: There is no evidence to prove him to be a member of the Master Decorators' Association, and there will have to be judgment for the defendant.

Mr. Robinson: As a matter of fact this affects a very large number of workmen, and I could prove there is an arrangement with the Master Builders' Association, and therefore I ask for special costs.

Judge Smyly declined to accede to the request, and judgment was entered for the defendant.

RESTAURANT, WARDOUR-STREET, W.

Extensions to the Coventry Restaurant, Wardour-street, are in progress. The architects are Messrs. Wratten & Godfrey, Carteret-street, Westminster. The general contractors are Messrs. F. Pitcher, Ltd., Marylebone-road; the steelwork is by Messrs. George Sands & Son, Ltd., Colwick, Notts; and Waygood lifts are being installed.

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 18s. per annum, with delivery by *Friday Morning's Post* in London and its suburbs.

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PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.
Per 1000 Alongside, in River.	
Best Stocks	1 16 6
Picked Stocks for Facings	2 10 0
Per 1000, Delivered at Railway Depôt.	
Flettons	1 14 0
Best Fareham Red	2 12 0
Best Red Pressed Ruabon Facing	5 0 0
GLAZED BRICKS—	
Best White, Ivory, and Salt Glzd Str'tch'rs	12 7 6
Headers	11 17 6
Quoins, Bullnose and 4½ in. Flats	15 17 6
D'bleStr'tch'rs	17 17 6
Second Quality £1 10s. per 1000 less than best.	
Best Blue Pressed Staffordshire	3 15 0
Do. Bullnose	4 0 0
Best Stourbridge Fire Bricks	4 0 0
Double Headers	1s 17 6
One Side and two Ends	18 17 6
Two Sides and one End	19 17 6
Splays and Squints	17 7 6

	s. d.	
Thames and Pit Sand	7 0	per yard, delivered.
Thames Ballast	5 9	" "
Best Portland Cement	36 0	per ton, "
Best Ground Blue Lias Lime	19 0	" "

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 14s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.

STONE.

Per Ft. Cube.

	s.	d.
BATH STONE—Delivered on road waggons, Paddington Depôt	1	7½
Do. do. Delivered on road waggons, Nine Elms Depôt	1	9½
PORTLAND STONE (20 ft. average)—		
Brown Whitbed, Delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	4½
White Basebed, Delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	6½

Per Ft. Cube, delivered at Railway Depôt.

	s.	d.		s.	d.
Ancaster in blocks..	1	10	Closeburn Red Freestone	2	0
Beer in blocks	1	6	Red Mansfield Freestone	2	4
Greenshill in blocks	1	10			
Darley Dale in blocks	2	4	Talacre & Gwespyr Stone	2	4
Red Corsehill in blocks	2	3			

YORK STONE—*Robin Hood Quality.*

	s.	d.
Per Ft. Cube, Delivered at Railway Depôt. Scappled random blocks	2	10
Per Ft. Super., Delivered at Railway Depôt. 6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto, ditto	2	6
3 in. sawn two sides slabs (random sizes)	0	11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7
1½ in. to 2 in. ditto, ditto	0	6
HARD YORK—		
Per Ft. Cube, Delivered at Railway Depôt. Scappled random blocks	3	0
Per Ft. Super., Delivered at Railway Depôt. 6 in. sawn two sides landing to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto	3	0
3 in. sawn two sides slabs (random sizes)	1	2
2 in. self-faced random flags	0	5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£	s.	d.	In. In.	£	s.	d
20 x 10 best blue Bangor	13	2	6	20 x 10 best Eureka unfading green..	15	17	6
20 x 12 ditto	13	17	6	20 x 12 ditto	18	7	6
20 x 10 1st q'lity ditto	13	0	0	18 x 10 ditto	13	5	0
20 x 12 ditto	13	15	0	16 x 8 ditto	10	5	0
16 x 8 ditto	7	5	0	20 x 10 permanent green	11	12	6
22 x 10 best blue Portmadoc	12	12	6	18 x 10 ditto	9	12	6
16 x 8 ditto	6	12	6	16 x 8 ditto	6	12	6

TILES.

At Railway Depôt.

	s.	d.		s.	d.
Best plain red roofing (per 1000)	42	0	Best "Hartshill" brand, plain sand-faced (per 1000)	45	0
Hip and Valley (per doz.)	3	7	Do. pressed (per 1000)	42	6
Best Broseley (per 1000)	50	0	Do. Ornamental (per 1000)	47	6
Do. Ornamental (per 1000)	52	6	Hip (per doz.)	4	0
Hip and Valley (per doz.)	4	0	Valley (per doz.)	3	6
Best Ruabon red, brown, or brindle (Edw'ds) (per 1000)	57	6	Staffords. (Hanley) Reds or Brindled (per 1000)	42	6
Do. Ornamental (per 1000)	60	0	Hand-made sand-faced (per 1000)	45	0
Hip (per doz.)	4	9	Hip (per doz.)	4	0
Valley (per doz.)	3	0	Valley (per doz)	3	6

WOOD.

BUILDING WOOD.	At per standard.					
	£	s.	d.	£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	15	0	0 ..	16	10	0
Deals: best 3 in. by 9 in.	15	0	0 ..	16	0	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	12	10	0 ..	13	10	0
Battens: best 2½ by 6 and 3 by 6	0	10	0	less than 7 in. and 8 in.		
Deals: seconds	1	0	0	less than best		
Battens: seconds	0	10	0	"	"	
2 in. by 4 in. and 2 in. by 6 in.	11	10	0 ..	12	10	0
2 in. by 4½ in. and 2 in. by 5 in.	10	10	0 ..	11	10	0
Foreign Sawn Boards—						
1 in. and 1½ in. by 7 in.	0	10	0	more than battens.		
¼ in.	1	0	0	"		
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft.					
	5	0	0 ..	6	5	0
Seconds	4	10	0 ..	5	0	0
Small timber (8 in. to 10 in.)	3	17	6 ..	4	0	0
Small timber (6 in. to 8 in.)	3	5	0 ..	3	10	0
Swedish balks	2	12	6 ..	3	0	0
Pitch-pine timber (30 ft. average)	6	0	0 ..	7	0	0

JOINERS' WOOD.	At per standard.					
White Sea: first yellow deals, 3 in. by 11 in.	26	0	0 ..	27	0	0
3 in. by 9 in.	24	0	0 ..	25	0	0
Battens, 2½ in. and 3 in. by 7 in.	18	10	0 ..	19	10	0
Second yellow deals, 3 in. by 11 in.	21	10	0 ..	22	10	0
" " 3 in. by 9 in.	20	0	0 ..	21	0	0
Battens, 2½ in. and 3 in. by 7 in.	15	0	0 ..	16	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	16	0	0 ..	17	0	0
Battens, 2½ in. and 3 in. by 7 in.	14	0	0 ..	15	0	0

WOOD (Continued).

JOINERS' WOOD (Continued)—	At per standard.					
	£	s.	d.	£	s.	d.
Petersburg: first yellow deals, 3 in. by 11 in.	23	0	0 ..	24	0	0
Do. 3 in. by 9 in.	20	0	0 ..	21	0	0
Battens	15	0	0 ..	16	0	0
Second yellow deals, 3 in. by 11 in.	17	10	0 ..	18	10	0
Do. 3 in. by 9 in.	16	0	0 ..	17	0	0
Battens	12	10	0 ..	13	10	0
Third yellow deals, 3 in. by 11 in.	14	0	0 ..	15	0	0
Do. 3 in. by 9 in.	13	10	0 ..	14	10	0
Battens	11	10	0 ..	12	10	0
White Sea and Petersburg—						
First white deals, 3 in. by 11 in.	16	10	0 ..	17	10	0
First white deals, 3 in. by 9 in.	14	10	0 ..	15	10	0
Battens	13	0	0 ..	13	10	0
Second white deals, 3 in. by 11 in.	14	10	0 ..	15	10	0
Second white deals, 3 in. by 9 in.	13	0	0 ..	14	0	0
Battens	12	0	0 ..	12	10	0
Pitch-pine: deals	25	0	0 ..	26	10	0
Under 2 in. thick extra	0	10	0 ..	1	0	0
Columbian or Oregon Pine, best quality	23	10	0 ..	26	0	0
Yellow Pine—First, regular sizes	50	0	0	upwards.		
Oddments	35	0	0	"		
Seconds, regular sizes	36	0	0	"		
Oddments	31	0	0	"		
Kauri Pine—Planks per ft. cube	0	5	6 ..	0	6	6
Danzig and Stettin Oak Logs—						
Large, per ft. cube	0	3	0 ..	0	3	9
Small " "	0	2	6 ..	0	3	0
Wainscot Oak Logs, per ft. cub	0	7	6 ..	0	9	0
Dry Wainscot Oak, per ft. super. as inch	0	0	10 ..	0	1	2
¼ in. do. do.	0	0	9 ..	0	1	0
Dry Mahogany — Honduras, Tabasco, per ft. super. as inch	0	0	10 ..	0	1	3
Selected, Figury, per ft. super. as inch	0	1	6 ..	0	2	6
Cuba Mahogany	0	1	4 ..	0	2	6
				upwards.		
Dry Walnut, American, per ft. super. as inch	0	0	10 ..	0	1	2
French, "Italian," Walnut	0	0	10 ..	0	1	4
Teak, per load (Rangoon or Moulmein)	20	10	0 ..	26	0	0
Do., do. (Java)	19	0	0 ..	22	10	0
American Whitewood planks, per ft. cube	0	5	6 ..	0	6	6
Prepared Flooring, etc.—	Per square.					
1 in. by 7 in. yellow, planed and shot	0	14	6 ..	0	18	0
1 in. by 7 in. yellow, planed and matched	0	14	9 ..	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	17	6 ..	1	3	0
1 in. by 7 in. white, planed and shot	0	14	0 ..	0	16	0
1 in. by 7 in. white, planed and matched	0	14	3 ..	0	16	6
1¼ in. by 7 in. white, planed and matched	0	16	6 ..	0	8	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed boards	0	12	6 ..	0	15	0
1 in. by 7 in. " "	0	15	0 ..	0	18	6
¾ in. by 7 in. white " "	0	12	0 ..	0	14	0
1 in. by 7 in. " "	0	14	6 ..	0	16	6

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton.					
	£	s.	d.	£	s.	d.
Rolled Steel Joists, ordinary sections	9	0	0 ..	10	0	0
Compound Girders, ordinary sections	11	0	0 ..	12	0	0
Steel Compound Stanchions	12	0	0 ..	13	0	0
Angles, Tees, and Channels, ordinary sections	11	0	0 ..	12	0	0
Plate Plates	11	0	0 ..	12	0	0
Cast Iron Columns & Stanchions, including ordinary patterns	8	10	0 ..	9	0	0

METALS.

	Per ton, in London.					
IRON—	£	s.	d.	£	s.	d.
Common Bars	9	0	0 ..	9	10	0
Staffordshire Crown Bars, good merchant quality	9	5	0 ..	9	15	0
Staffordshire "Marked Bars"	11	0	0 ..	—		
Mild Steel Bars	9	5	0 ..	9	15	0
Hoop Iron, basis price	10	0	0 ..	—		
" Galvanised	17	10	0 ..	—		
(* And upwards, according to size and gauge.)						
Sheet Iron Black—						
Ordinary sizes to 20 g.	10	5	0 ..	—		
" " 24 g.	11	5	0 ..	—		
" " 26 g.	12	15	0 ..	—		
Sheet Iron, Galvanised, flat, ordinary quality—						
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15	10	0 ..	—		
Ordinary sizes to 22 g. and 24 g.	16	0	0 ..	—		
Ordinary sizes to 26 g.	17	0	0 ..	—		
Sheet Iron, Galvanised, flat, best quality—						
Ordinary sizes to 20 g.	18	10	0 ..	—		
" " 22 g. and 24 g.	19	0	0 ..	—		
Ordinary sizes to 26 g.	20	10	0 ..	—		
Galvanised Corrugated Sheets—						
Ordinary sizes, 6 ft. to 8 ft. 20 g.	15	0	0 ..	—		
Ordinary sizes, 22 g. and 24 g.	15	5	0 ..	—		
Ordinary sizes, 26 g.	16	15	0 ..	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12	10	0 ..	—		

METALS (Continued).

IRON (Continued)—	Per ton, in London.					
	£	s.	d.	£	s.	d.
Best Soft Steel Sheets, 22 g. & 24 g.	13	10	0 ..	—		
Best Soft Steel Sheets, 26 g.	15	10	0 ..	—		
Cut Nails, 3 in. to 6 in.	11	0	0 ..	11	10	0
(Under 3 in., usual trade extras.)						

LEAD, &c.

Delivered in London.

	£	s.	d.		£	s.	d.
LEAD—Sheet, English, 4 lb. and up	22	15	0	..	—		
Pipe in coils	23	5	0	..	—		
Soil pipe	26	5	0	..	—		
Compo pipe	26	5	0	..	—		
ZINC—Sheet—	In casks of 10 cwt.						
Vielle Montagne	28	5	0	..	—		
Silesian	28	10	0	..	—		
Zinc, in bundles, 1s. per cwt. extra.							
COPPER—							
Strong Sheet per lb.	0	1	1	..	—		
Thin "	0	1	2	..	—		
Copper nails "	0	1	0	..	—		
Copper wire "	0	1	0	..	—		
BRASS—							
Strong Sheet "	0	1	0	..	—		
Thin "	0	1	1	..	—		
TIN—English Ingots "	0	1	11	..	—		
SOLDER—Plumbers' "	0	0	10	..	—		
Tinmen's "	0	1	1	..	—		
Blowpipe "	0	1	3	..	—		

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.

15 oz. thirds	2½d.	26 oz. fourths	3½d.
" fourths	2d.	32 oz. thirds	5½d.
21 oz. thirds	3½d.	" fourths	4½d.
" fourths	3d.	Fluted Sheet, 15 oz.	3d.
26 oz. thirds	4½d.	" 21 oz.	4d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.

¼ Rolled plate	2½d.	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	3½d.
⅛ Rough rolled and rough cast plate	2¾d.	Ditto, tinted	5d.
¼ Rough rolled and rough cast plate	3d.		

* Not less than two crates.

OILS, &c.		£	s.	d
Raw Linseed Oil in pipes	per gallon	0	2	0
" " " in barrels	"	0	2	1
" " " in drums	"	0	2	3
Boiled " " in barrels	"	0	2	3
" " " in drums	"	0	2	6
Turpentine in barrels	"	0	2	9
" in drums	"	0	2	11
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		25	15	0
Red Lead, Dry	per ton	27	10	0
Best Linseed Oil Putty	per cwt.	0	9	0
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon.		
	£	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	9
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	6
Extra Pale French Oil	1	1	0
Eggshell Flating Varnish	0	18	0
White Pale Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	0
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	6
French and Brush Polish	0	10	0

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* Denotes *accepted*. † Denotes *provisionally accepted*.

ALDINGBOURNE.—For alterations and additions at Council school, for West Sussex Education Committee:—
Peskett & Co.* £591

BIGGLESWADE.—For erection of cottages at Langford, for the Biggleswade Rural District Council:—
C. Wright* £3,788

CAMBRIDGE.—For demolition and rebuilding of 18, Peas-hill, for the Corporation:—
J. Brignell* £364

CATSHILL.—For heating apparatus at new school, for the Worcestershire County Council:—
J. Ward, Ltd., Worcester* £281

HIGH WYCOMBE.—For levelling land and improvement of gradient of roadway, for the High Wycombe High School Governors:—
J. T. Harris* £256 14

LLYSFAEN.—For extension of pumping station, additional plant, etc. Messrs. T. B. Farringdon & Son, engineers, Llandudno:—

W. Jowett	£1,999 5 11
J. Evans	1,975 10 8
B. Lumb, Old Colwyn and Tor-morden*	1,965 15 11
E. H. Hornoastle	1,879 16 4
M. A. Boswell	1,785 15 7

LONDON.—For enlargement of Paddington and Maida Vale High School, for the London County Council:—

T. D. Leng	£8,109 0 0
W. King & Son	7,305 0 0
Triggs & Co.	7,281 0 0
W. E. Blake, Ltd.	7,157 15 4
Killby & Gayford, Ltd.	7,122 0 0
W. J. Dickens	7,(88 0 0
G. Godson & Sons, Pembroke Works, Kilburn-lane*	6,911 0 0

LONDON.—For erection of conveniences and shelter in Northbrook Park, for the London County Council:—

W. Bickerton	£628
W. Pollock	4'0
W. Bailey, East Greenwich, S.E.*	456

LONDON.—For new school in Balham High-road, for the London County Council:—

Thomas & Edge	£23,800
J. Garrett & Son	23,790
J. & C. Bowyer, Ltd.	22,966
W. Downs	22,497
G. E. Wallis & Sons, Ltd., Panton-street, Haymarket*	22,268

LONDON.—For alterations and extensions, the Players' Club, Shaftesbury-avenue, W. Mr. Alfred E. Nightingale, architect, Putney:—

C. H. Cole & Sons	£449	W. J. Shields	£300
Roffey & Sons	370	Small & Sons	296

MELTON MOWBRAY.—For alterations and additions, etc., to Council school, for Leicestershire County Council Education Committee. Mr. Ernest G. Fowler, Architect and Surveyor, County Education Office, Leicester:—

Denman & Newham	£2,340 0 0	T. Barker & Sons	£2,275 0 0
J. Cole & Sons	2,318 7 2	Haycock Bros.	2,241 15 0
J. C. Kellett & Son	2,300 0 0	F. Sleath	2,213 0 0
E. Clarke	2,294 0 0	E. Fox, Leicester*	2,149 0 0
W. Corah & Son	2,283 0 0		

PAIGNTON.—For erection of machinery depôt in Well-street, for the Urban District Council:—
E. P. Bovey & Son, Torquay* £1,087

LETCHWORTH.—For Wesleyan Church, etc. Messrs. George Baines & Son, architects, 5, Clement's Inn, Strand, W.C.:—

—	A Church Complete.	B Juniors' Room.	C Bath Stone.	D Do. Juniors.	E Broseley Tiles.	F Do. Juniors.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
R. A. Roome & Co.	6,600 0 0	820 0 0	12 0 0	15 0 0	56 0 0	9 0 0
F. Newton	6,490 0 0	805 0 0	15 0 0	10 0 0	38 0 0	9 10 0
A. Collins	6,427 0 0	841 0 0	70 0 0	7 0 0	14 10 6	4 15 0
Beckley & Turpie	6,425 0 0	840 0 0	68 17 7	6 0 0	13 12 0	3 10 0
J. Willmott & Sons	6,355 0 0	775 0 0	7 18 6	7 16 0	35 0 0	8 10 0
Battley Sons & Holness	5,951 0 0	773 0 0	7 0 0	4 0 0	35 0 0	8 10 0
J. Dorey & Co., Ltd.	5,926 0 0	752 0 0	5 0 0	3 10 0	32 12 6	7 10 0
H. Hurst	5,896 0 0	714 0 0	78 16 0	4 0 0	38 0 0	8 15 0
Goddard & Sons	5,890 0 0	726 0 0	60 0 0	3 10 0	40. 0 0	9 10 0
Openshaw & Co.	5,850 0 0	704 17 6	24 3 6	3 10 0	21 15 0	3 0 0
W. Souster & Son	5,750 0 0	850 0 0	30 0 0	3 15 0	59 16 0	14 0 0
Brightman & Sons, Ltd.‡	5,687 0 0	697 0 0	20 0 0	5 0 0	49 0 0	11 0 0

‡ Accepted with modifications.

PERSHORE.—For erection of sixteen cottages at Pinvin, for the Pershore Rural District Council, under the Housing of the Working Classes Act. Messrs. Dicks & Waldron, architects, Evesham. Quantities by the architects:—

W. Roe	£3,150	W. White	£2,780
W. Jones	3,156	F. White	2,745
J. Guest & Son	3,080	T. Williams	2,740
H. Morgan	3,075	Espley & Co., Ltd.	2,740
Buggins Bros.	2,875	G. Field	2,700
A. Cliff & Co.	2,830	Smith & Unitt, Stratford-on-Avon†	2,681
J. Knox	2,830		

POPLAR.—For construction of subways and alterations to ward kitchens at the Poplar and Stepney Sick Asylum, for the Managers:—
W. S. Sharpin, Wellington-road, Bow* ... £2,986

TEWKESBURY.—For construction of Aschurch water supply works, for the Tewkesbury Rural District Council:—

Hanney Bros.	£2,778 10 0	Armstead	£1,932 7 7
Saunders & Sons, Ltd.	2,300 0 0	Emery & Co.	1,888 1 0
Jakes & Co.	2,292 4 7	Kearsley & Sons, Leigh, Lancashire*	1,701 11 9
Walker & Sons	2,223 0 0		
Riley	2,198 19 1		

WEMBLEY.—For erection of a temporary isolation hospital, for the Urban District Council. Mr. C. R. W. Chapman, engineer and surveyor, Wembley:—
T. W. Palmer & Co., Merton Abbey* £460

WORCESTER.—For erection of new tuberculosis blocks, etc., at the Newtown Hospital, for the Worcestershire Corporation:—
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